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POSTWAR PROGRESS IN CHILD WELFARE

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Supplement on
AIRPORT PROBLEMS OF AMERICAN CITIES

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The Decade Since the War: A Résumé

By J. PRENTICE MURPHY

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THE year 1930 will come to a close with consideration of the recommendations of the Third White House Conference on Child Health and Protection, to be held in Washington during the week of November 15th. President Roosevelt called the first White House Conference in 1909, thus instituting a practice which was repeated under President Wilson in 1919 with a great gathering of leaders from our own country and all parts of the world.

President Hoover's action makes this practice of ten-year appraisals and recommendations a fixed one. The first two conferences have had very important effects on the social welfare thought and procedure of this and other lands. The 1930 conference—almost encyclopedic in its character—undoubtedly will be so appraised when the next one comes into being ten years hence. What has been done in the field of child welfare in the United States during the past decade may well be viewed in the light of the findings of these first two conferences, especially that of 1919, and since the 1909 recommendations were embodied in those of 1919, the findings of the latter year will be used as a measuring rod.

ACHIEVEMENTS IN RETROSPECT

The 1919 conference was cast on a far larger scale than the first one, for, besides the special interests of dependent and neglected children, it included the essentials of a sound program for child labor and public protection of the health of mothers and children.

The proposed minimum standards

for child labor were higher than those followed in some states. They represented a serious attempt to secure proper protection for child workers and prevention of all unsocial child labor, through the statutory law of all states. The papers and discussions preceding and supporting the recommendations generated a movement which culminated in the 1924 campaign for the Federal child labor amendment, briefly reported elsewhere in this volume. That campaign failed, and present conditions cannot be characterized as progressive. The arguments for nation-wide protection through Federal action still seem sound, but the likelihood of such action is more remote now than it was then.

The recommendations and discussions under this heading—worked out by able and unusually qualified experts—revealed the extent to which these reasonable standards were not being followed, and how much would be lost if we had to wait on individual initiative and the support of the various states. Full realization of this ultimately led to the passage of the Federal Maternity and Infancy Law, which, until its expiration during the latter part of President Coolidge's term, represented one of the most distinctive and dramatic child welfare services ever performed by the Government in coöperation with the states.

Preventable deaths of women in childbirth in the United States are still appallingly high. In the decade under discussion, according to reports from the Children's Bureau of the Federal Department of Labor and from the

American Child Health Association, it has become increasingly possible to segregate the preventable maternal deaths. These, according to a report made before the 1930 conference of the Association, now are in the neighborhood of twelve thousand a year for this country.¹ There can be no question that but for the work done by the Federal Government during part of the period since 1919, this appalling total would have been much higher, and that the aggregate of such deaths for the whole period might have been in the neighborhood of 150,000.

What was done under the Federal Maternity and Infancy Law, as it affected infant mortality, shows the value of the united drive by Washington and all but a few of the states. Prevention of needless deaths has achieved gains, reported elsewhere in this volume, and marked decrease of needless illness among little children will increasingly result in better health among adults.

DEPENDENCY

The dependent or neglected child who, for a variety of reasons, passes out of his own home into foster care at the hands of strangers, was the subject of much discussion in 1919. It was the solemn judgment of that conference, reaffirming the earlier declaration, that home life is "the highest and finest product of civilization," the implication being that if we insured to more families the essentials of a sound economic life, there would be fewer needy and neglected children to be cared for.

The volume of work done for dependent children, according to the United States Census Bureau,² on February

¹ See 1930 *Proceedings American Child Health Association*.

² *Children Under Institutional Care*, Dept. of Commerce, Bureau of Census, Washington: 1923.

1st, 1923, is indicated by the 212,348 reported as then being in care of public and private agencies. Those figures were not complete, and some reputable authorities estimate that the number cared for at one time may run from 300,000 to 350,000, or even more. In part, this larger estimate would be accounted for by population increase, and in part by more accurate figures.

However, were it not for the improvement in standards of living enjoyed by some; the rising standards of public and private family relief agencies, and the remarkable achievements in different states in the administration of mothers' pension or assistance laws, the number of children in the care of institutions and societies would be much greater than it is, and the building program among institutions would be on the increase instead of declining as it has been for some time. This country-wide decrease in the number of children away from home is a new and interesting development.

The latter part of the decade gives indications that still further changes are pending. Adequacy of income and economic security, if carried far enough, would recast large areas in the child welfare field. If child welfare ever really "goes economic," then we will have contraction of dependency to a point where the causal factors will be essentially personal, not economic, and therefore susceptible to treatment by social workers with special technical skills adapted to just such situations.

The cost of industry in terms of child welfare, as expressed in death or permanent or serious injury of parents, is giving increasing concern. The workmen's compensation laws of different states protect, in greater or less degree, thousands of families from the need for seeking or depending on "charity." But the surviving members of these families pay a price that

frequently is heavy and often tragic in the permanent checking of opportunities for cultural growth. We see a steadily rising demand that the full social costs of industry be known and that their burden be not allowed to fall entirely on the families whose members are the victims.

The quality of work performed by the mothers' aid or pension workers has given a new dignity to at least one important phase of public relief. As a matter of fact, generous as is the giving public in some parts of the United States, relief of families in their own homes is far more a public than a private burden. This always has been so. Now we see the increasing advantage to social workers of public family relief being carried on, if administered by the right personnel. That this can be done outside of the mothers' aid field is clearly shown by work now going forward in parts of Massachusetts, New York, North Carolina, California, and other states.

PROFESSIONAL STANDARDS

Professional standards in the children's field of social work have made marked progress, but there are still many child caring agencies of all kinds whose executives, even, lack right training. People in responsible positions—board members and social workers—are increasingly realizing that it does little good to talk about right methods unless staff members are competent to think out and apply such methods. We seem also to be understanding that although an agency may be able to pay for competent staff workers, it is hard to get or to keep them if the executive head is incompetent or inadequately trained.

Social case work, in its professional applications, is making it possible to secure more of the things children need, either by preventing their un-

necessary removal from their own homes or by assuring proper care after removal, without overstressing methods. Where there is a reasonably complete picture of the social, the physical, and the mental background in the hands of competent people, subsequent social treatment will probably be sound, with just and honest appraisal of its ultimate results. Types of care, whether in institutions or families; institution design and set-up, and other questions have in the past been too generally discussed without benefit of factual bases.

DEFECTIVE AND DELINQUENT CHILDREN

The recommendations of ten years ago were that long-time care should not be given in institutions; that this was the field of foster family care. We are now seeing a gradual shortening in all periods of care, with many types of health, personality, and behavior problems coming more, if not entirely, within the family field. Institutions are becoming more selective—some making their requirements so difficult as to reject entirely those children who, though needing care, show physical or mental impairment.

We have so concentrated on children of normal or supernormal mentality as to develop a kind of casualness about those representing common stock. This decade ends with a note of greater optimism as to what may be done for the feeble-minded; an appreciation of the vast inaccuracies which attend much judging of feeble-mindedness, and a realization that only a relatively small proportion of such persons need to be removed from their own homes. The Massachusetts law requiring all school authorities to report to the proper state authorities all cases of children showing marked retardation is revealing a higher percentage of feeble-

mindfulness than had been estimated, but the social welfare implications are encouraging and promising.

At the first White House Conference, no consideration was given to the needs of so-called delinquent children—those who, using a more accurate terminology, are personality or behavior problems. In fact, in the letter requesting President Roosevelt to call such a conference, the committee in charge said that “delinquent” children were faring very well; that the rapid spread of the juvenile court movement was full of promise; that the marked increase in the number of juvenile detention homes and residential schools for truants was evidence that “the cause of the delinquent child [had] been well advanced.”

We now know that this judgment was ill-founded, having rested on an attitude towards certain methods of group care now disqualified. Personality studies made by social workers, psychiatrists, and psychologists have shown that all mass care of delinquents is accompanied by enormous hazards, giving increasing emphasis to patterns of further misbehavior, and leading to the creation of conditions in these very agencies which endanger the social recovery of the child.

Adult prisoners, with rare exceptions, have histories of early delinquency. This is strikingly brought out in the studies listed below.³ It has been shown that juvenile detention homes and residential schools for truants tend to make, rather than cure, delinquents.

³ Healy, William, *The Individual Delinquent*, Boston: Little, Brown and Co., 1915; Healy, William, and Bronner, Augusta F., *Delinquents and Criminals—Their Making and Unmaking*, New York: The Macmillan Co., 1926; Thomas, W. I. and Dorothy Swaine, *The Child in America*, New York: A. A. Knopf, 1928; Shaw, Clifford R., *Delinquency Areas and The Jack Roller*, Chicago: University of Chicago Press, 1929 and 1930.

The superficial thinking done in this matter by judges and other public officials, social workers, and educators will, in years to come, be rated as one of the most amazing developments in the history of social work.

The juvenile court movement, heralded by many with unqualified praise, is now the object of just and searching criticism. The author has tried to point this out in a recent article.⁴ The juvenile court is not a general panacea for the social ills of childhood, but as a tool in the hands of well-qualified judges and workers it has a field of great opportunity, which, however, we are coming to see is not necessarily a permanent one.

We have no more nearly complete and accurate statistics as to the number of juvenile delinquents than we have of juvenile dependents. In 1923,⁵ a total of 33,057 such children were reported in care of courts and other agencies—a figure to be considered only as a general indication of the size of the job. A more recent report shows a total of 38,882 delinquent children coming under the care of sixty-two juvenile courts,⁶ about half of which were serving areas with population of 100,000 or more, each.

FEDERAL AND STATE PROGRESS

Public responsibilities on the governmental side have seen most encouraging gains. Rare leadership has been shown by the Children's Bureau of the United States Department of Labor. The two chief executive officers since its founding rank among the great civic leaders of our time. Increasing interest in child welfare research;

⁴ “The Juvenile Court at the Bar,” *The Annals of the American Academy of Political and Social Science*, Vol. 145, No. 234, pp. 80-97, Sept., 1929.

⁵ *Children Under Institutional Care*, op. cit.

⁶ *Juvenile Court Statistics, 1928* U. S. Children's Bureau, Pub. No. 200.

promulgation of standards, and interpretations based on sound study, are attributable in large measure to this Federal agency.

Many state governments likewise have made valuable contributions to the cause, notable among these being New Jersey, California, Pennsylvania, Alabama, and North Carolina, to mention only a few. First through the mothers' pension movement, and then through other forms of public welfare affecting children, we now see the emergence of a personnel comparing most favorably with the best workers in the private fields.

The "chest" or "federation" movement of the past ten years has brought large increase of funds for family and child care, but in many cases the increased expenditure has not represented higher standards or sounder trends of care than those in the preceding decade. We have spent more money for more care of a type on which less should have been spent.

We have made little progress in seeing our responsibility for the families of prisoners. We seize and imprison without imagination or vision. We seem unable to arouse the interest of enough large givers to social welfare in the direction of statesmanlike planning and financing projects of family and child welfare for these and similarly handicapped families.

Closing one decade and entering another, our task is to show that much of what glisters like gold in the field of child welfare is baser metal; that all good child welfare programs must absorb the essentials of economic security as based on adequate wages with their power to command health- and character-building forces.

We close a decade which has opened up few spiritual values for children. Let us hope that at least our more recent experiences prophesy a renaissance of such values, in their finest sense, during the years for which we now are planning.

Child Welfare and the Modern Mind

By JAMES H. S. BOSSARD, PH.D.

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SCIENCE is the architect of our civilization. Its achievements dominate modern culture, and its spirit shapes the character of our intellectual and spiritual life. To the Western mind, all other expressions of the creative spirit seem futile. The final appeal in all problems and points of dispute is to the scientist, and his judgments we consider to be true and righteous altogether.

SCIENCE AND OUR MATERIAL ACHIEVEMENTS

Of the manifold achievements of science, those of a material nature have been the most obvious and the most spectacular. The exploitation of natural resources by means of scientific knowledge is the outstanding feature in the history of the past two centuries. This usage of nature constitutes the basis of modern industry, and the products of modern industry constitute the basis of modern living.

Ours is a technological civilization. Its basis is the power-driven machine. Its tempo is the rhythm of the machine. Its stage setting is the city. Its keynote is that of ever changing patterns and processes. Its spirit is the semi-insolent self-confidence of the successful. Its ideal is an indefinite multiplication in the production of goods. Its price constitutes the pathologies of contemporary society.

Moreover, these material achievements are continuing. Revolution in industry, instead of constituting an epoch in a bygone century, is still being affected by science, over and again, with a speed and over an area

that make the efforts of a hundred and fifty years ago seem insignificant. Scientific research is the modern form of business pioneering—the mother of modern industries. Our laboratories are creating things new each day and each day more wonderful. Men communicate with men across seas, speaking in sparks that span thousands of miles of space. Engineers are leashing rivers, leading them into barren deserts, damming up their waters, and undamming the desolate wastes of land that nature's morbid mood created. Verily, man has become a miracle maker—in the realm material.

SCIENCE AND THE MODERN MIND

Our technological development and the emergence of modern modes of living are but phases of a transformation much more fundamental and far-reaching than any series of material changes possibly could be. This larger movement is the intellectual revolution. What this involves primarily is a new viewpoint, a new attitude, on the part of man toward the universe, toward life, toward himself. And the way it faces its problems is perhaps the most significant thing to be noted about any age, group or individual.

There is nothing essentially distinctive about the scientific method. Its constituent elements characterize the mental activities of all mentally normal individuals. What is incomparably more important than the details of any method is the scientific attitude, and the most significant fact in human history is the progressive extension of this attitude. This it is

which is the peculiarly distinguishing feature of the modern mind—this effort of contemporary man to gain an impersonal and dispassionate insight into the phenomena which confront him, to examine afresh the facts of his experience, without being bound by the explanations and the traditions of the past. It is this attitude which has thrust a new and unpredictable factor into the course of human development. The scientific attitude is a free mind, and scientific method, the natural technique of a freed mind wrestling with its problems.

THE PHILOSOPHY OF THE MODERN MIND

The Middle Ages were the domain of stability and continuity. Ignorant of history, men allowed themselves to be governed by the unknown past; ignorant of science, they never believed in hidden forces working on to a happier end. A sense of decay was upon them. Each generation seemed so inferior to the last in ancient wisdom and ancestral virtue that they found comfort in the assurance that the end of the world was at hand.

Over against the static conceptions which characterized medieval thinking is the modern idea of a dynamic and ever changing universe. The concept of change is fundamental to all modern thinking. We see everything in a state of becoming. That which has been yields to that which is, to be displaced in turn by that which shall be—this, applicable from electron to solar system and from amoeba to man, is the cornerstone of contemporary interpretation. Change is hailed as the universal principle of cosmic development.

Meanwhile, as scientific students have been developing the concept of change, the technologists have been scoring signal successes in directing or

moulding the course of material change. The spectacular changes wrought by science have completely captured the imagination of the modern mind, and as a result there has grown up a sort of popular faith that scientists can accomplish almost anything if given adequate facilities and sufficient time. In fact, not the least significant thing about modern inventions is the calm assurance, yea, almost indifference, with which they are accepted by the public. So much has been accomplished during recent years by way of technological advance that it is taken for granted that there are virtually no limitations to the inventive genius of man. While this belief may not be warranted, nevertheless the material progress effected through science during recent centuries has been so continuous that such a belief is not unnatural.

Out of this background emerges the characterizing philosophy of our time, namely, that man is the master of his fate, that he need not submit, and that there really is no virtue in continuing to submit, to the limitations imposed upon him by the forces of nature or the follies of man.

Bertrand Russell speaks of this as the Instrumental Theory. He writes:

The philosophy inspired by industrialism is sweeping away the static conception of knowledge which dominated both medieval and modern philosophy, and has substituted what it calls the Instrumental Theory, the very name of which is suggested by machinery. In the Instrumental Theory, there is not a single state of mind which consists of knowing a truth—there is a way of acting, a manner of handling the environment, which is appropriate, and whose appropriateness constitutes what alone can be called knowledge as these philosophers understand it. One might sum up this theory by a definition: To know something is to be able to change it as we wish. There is no place in this outlook for the

beatific vision, nor for any notion of final excellence.¹

In other words, modern man, applying rigidly the principle of cause and effect, evolving control out of understanding and honoring the latter only as it facilitates the former, holds himself responsible both for the shaping of his present and the direction of his future. And this is the dominating philosophy of the modern mind.

HUMAN REALITIES AND THE MODERN MIND

Recently, man has been toying timidly with these ideas in the field of human personality and behavior—ideas involving the hope of understanding and the promise of control. Arresting thoughts these—that human development and social achievement are not fixed and settled and hopeless. Wondrous and infectious optimism here—that human happiness and social well-being may be achieved, as they must be earned, by social intelligence.

Thus stimulated, sociologists have come to emphasize the concept of social change, leading more recently to attempts to analyze and chart and measure such change. The subject is now—1390—being considered by a commission of sociologists at the direction of the President of the United States. Ultimately, perhaps rather soon, such researches on social change will help us to an understanding of the various trends of social evolution, will aid us to evaluate them, will permit us to appreciate with reasonable probability their projection into the future, and will make possible perhaps some degree of success in their guidance.

The social sciences are now laying the foundation of understanding upon which the structure of control will some day be built. Various modes

and successive waves of popular education are interpreting each day in our understanding. Many of our social scientists have their noses so close to the grindstones of their tasks that they cannot see the implications of the work to which they are contributing. Only the far-sighted and the unfettered catch an occasional glimpse of that which is to be in the realm of man's social life. Slowly, man's bondage to himself is passing.

The movement for social betterment represents one aspect, and a very important aspect, of the modern mind at work in the field of human relationships. Conceived originally in good intention and born at the dawn of human history out of an emotional concern for the unfortunate, this movement has been going to school recently in the temple of science. The lessons being learned in that temple, the methods utilized and the attitude emphasized, are revolutionizing social welfare just as science has revolutionized other fields of human effort.

SOCIAL WELFARE AND THE GENETIC VIEWPOINT

The viewpoint of modern science is genetic, which means among other things that every science sees its problems in historical perspective. Under the scientific influence, the American movement for social betterment is studying its history. Some eight years ago, Mr. Robert Kelso reminded us that public outdoor relief in the United States, for example, had passed its three hundredth anniversary.² True it is that but a few Eastern states show such lengthy periods of development, yet American experience is not state bound. Iowa is but the New England of a later generation, and Los Angeles the contemporary edition of both.

¹ Russell, Bertrand, *Whither Mankind*, p. 72, New York: Longmans, Green and Company, 1928.

² Kelso, Robert W., *History of Public Poor Relief in Massachusetts*, Boston and New York: Houghton Mifflin Company, 1922.

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Not sufficient consideration has been given to the history of the American welfare movement. While many pages in this chapter of our national development remain to be written, enough is known to show the main trend of its evolution. And the trend is unmistakably this: each succeeding stage in that evolution has carried the emphasis nearer to the inception of life. In other words, social welfare has steadily moved forward by going back unerringly to the age of beginnings.

SCIENCE AND SOCIAL ECONOMY

Science means objective analysis. Under its influence, the social welfare movement is becoming conscious of its financial implications and is measuring these against the results obtained.

Anything like a complete accounting of the cost, in dollars and cents, of welfare work is, of course, impossible. Familiarity with total expenditures in certain restricted areas, and with the amount expended on a national scale for specific types of work, warrants an estimate which may have the merit of a scientific approximation.

On the basis of the data now available, the total expenditures in the United States for such purposes may be conservatively placed at five billion dollars a year.³ This is a very large sum of money—to spend annually. It about equals the total money now invested in this country in electric railways; it slightly exceeds the total value of all the products of the entire automobile industry of the United States in 1927.

Motivated by this pinch on its pocketbook, society is querying the financial and social acumen of present policies and expenditures. At any rate, some rather pointed questions are being asked. Are the moneys expended

for welfare purposes spent wisely and judiciously? Must such stupendous expenditures continue indefinitely? Are there ways, socially fruitful as well, by which these burdensome costs may be reduced?

By way of reply, social research is unearthing some contrasting data of striking significance. Against the items of six hundred dollars a year for custodial care in a prison, a conviction cost of several thousand dollars per case in our larger cities, and the damage of the criminal act, emphasis is being put on the small cost per capita and the high rate of return of the visiting teacher movement, scout and camp fire activities, recreational projects of all kinds, and the work of child caring agencies of the better sort. The folly of institutional care for youthful delinquents has been scientifically established.⁴ Problem behavior in youth can be reconstructed, it has been shown.⁵ Foster children do turn out well.⁶

In brief, to the demand for increased achievement in social well-being at the cost of less effort and money, social science suggests constructive work with children. Speaking in terms of dollars, child welfare work represents the safest and most fruitful investment which a nation possibly can make.

THE EMPHASIS OF RECENT INTERPRETATIONS

The viewpoint of modern science is causal. Under its suggestive influence,

⁴ Cf. Healy, William, and Bronner, Augusta, *Delinquents and Criminals, Their Making and Unmaking*, New York: The Macmillan Company, 1926.

⁵ Healy, William, Bronner, Augusta F., Baylor, Edith M. H., Murphy, J. Prentice, *Reconstructing Behavior in Youth*, New York: A. A. Knopf, 1929.

⁶ Theis, Sophie, *How Foster Children Turn Out*, State Charities Aid Association, New York, Pub. 165, 1924.

³ Bossard, James H. S., "Speaking in Terms of Dollars," *Social Forces*, Vol. 7, No. 3, pp. 389ff, March, 1929.

the social welfare movement is coming to a new and better understanding of its task.

To be sure, social workers have emphasized causal antecedents in their work for many years. Recently, however, has come the knowledge that these causes are neither so few in number nor so simple in their operation as had been rather naïvely supposed. In the study of causal relationships, there is a transference of emphasis and interest from the broadly obvious to the subtly effective. This it is which is essentially new in today's approach to the study of behavior problems.

Here again childhood appears as the period of paramount importance. Modern psychiatry and the psycho-analytic procedure have multiplied by many times the significance of the

earlier years. Theories of the causation of crime, mental disease, distorted character, economic failure, and domestic maladjustment have had to be reconstructed on the basis of the contributions of the modern sciences and resolved into elements of juvenile conditioning.

The cumulative effect of recent discoveries in the life sciences has been to make the social welfare movement more "child-minded." The modern mind, wrestling with the possibilities of human control, finds them where Plato dreamed his ideal state—in the directed development of the next generation. Science now counsels what our tender sympathies long have dictated. Society's "acre of diamonds" lies revealed in the rocking cradle within the door, and social statesmanship finds its task in the heart of a child.

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The Child's Enlarging Social Horizon

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IT is the purpose of this essay to call attention to some of the more subtle social changes, which are ordinarily ignored. These changes are in the amount of social stimulation and in the variety of social contacts experienced by the child. The sociologist views the background problem of child welfare in these terms rather than simply as a problem of describing the mobility of the population and the industrial changes that have taken place.

The redistribution of population

CHILD POPULATION

In the study of these trends, it is important to note first of all that changes of the sort which concern us may be seriously misinterpreted if we fail to realize that the base line from which all comparison should be made is the number of children affected. The population five to seventeen years of age in the United States has increased during the decade 1918 to 1928 as shown in Table I.¹

TABLE I—POPULATION 5-17 YEARS OF AGE 1918-1928 IN THE UNITED STATES

Year	Number	Index	Average Attending Public School	Index
1918.....	27,686,476	100	15,548,914	100
1920.....	27,728,788	100	16,150,035	103
1922.....	28,627,201	103	18,432,213	118
1924.....	29,345,911	105	19,132,451	123
1925.....	29,705,264	107	19,838,384	127
1926.....	30,064,621	108	19,855,881	127
1928.....	30,783,341	111	20,517,819	131

cityward, combined with the increased use of mechanisms of transportation and communication, forms the ultimate changing background of both urban and rural life, and results in an enlarging horizon for the child. For the study of these changes in social stimulation and in the variety of social contacts, we do not have anything like a complete survey of the facts, but we do have some sample data that suggest the trends of change. These trends are little short of startling, and emphasize the need for further study.

It is evident that the child population increased eleven per cent in ten years, whereas the average number attending public school increased thirty-one per cent during the same period. Thus, in so far as the school provides social contacts, the number of children exposed has increased more rapidly than has the basic population.

Changes in transportation and communication and in the frequency and the variety of social stimulation are connected as cause and effect. Evi-

¹ From U. S. Bureau of Education.

dence of this is the enormous increase in the use of automobiles² shown in Table II.³

TABLE II—REGISTRATION OF AUTOMOBILES IN THE UNITED STATES

Year	Total Registration	Index
1918.....	6,146,617	100
1929.....	24,493,124	398

MORE FREQUENT SOCIAL CONTACTS

These figures show that the number of registrations has increased 298 per cent in ten years! In rural regions, this means that the number of casual visitors "just driving by" has increased by leaps and bounds. It means more numerous and more frequent week-end guests from the city and the town. Their automobiles may be seen parked by the barn or in the yard on Saturdays and Sundays. A long stream of tourists passes by, and some stop for water and some for information. Each stop, for whatever reason, adds to the social contacts of the rural family. Salespeople, canvassers, and others call at the farm home and bring the stimulation of personal contacts with outsiders.

The increasing use of radio instruments, telephone, and mail in farmhouses increases the stimulation of derivative contacts. In the city, also, these derivative contacts are frequent. For the nation, we find that the average daily telephone messages increased eighty-five per cent from 1918 to 1929.

TABLE III—AVERAGE DAILY TELEPHONE MESSAGES

Year	Over Bell Telephone System	Index
1918...	31,854,000	100
1928...	55,196,000	173
1929...	59,035,000	185

² *World Almanac*, 1930, p. 426.

It is estimated that the number of homes equipped with radio sets increased from 60,000 in 1921 to 7,500,000 in 1927,³ an increase of ten thousand per cent in seven years. If one may judge by the litigation about the radio nuisance, it is evident that the radio has added to the social stimulation in the average home!

Much of the increased social stimulation of the past decade comes from the growing volume of printed matter. In the ten years from 1914 to 1925, the per capita publication of books and pamphlets increased one hundred per cent, or just doubled. From 1914 to 1927, the number of juvenile books increased twenty-nine per cent. The circulation of newspapers and periodicals increased between 1914 and 1925 as follows:⁴ daily newspapers thirty-two per cent, Sunday newspapers fifty-five per cent, monthly magazines forty-one per cent.

CITY LIFE SHOWS GREATEST CHANGE

All these striking changes in the social stimulation to which the child is directly or indirectly subjected tend to be most pronounced in the city. If we assume that the urban trend indicates the direction of social change in the country also, then we may regard the statistics taken in New York and in other large cities as significant of the future for the country. Only a few figures are necessary to show that the current is swift and strong towards greater and greater volume of stimulation. Automobile registrations in New York City increased 326 per cent from 1920 to 1928.⁴ The number of passengers using the Times Square subway stations increased 110 per cent in

³ Burgess, E. W., "Communication," in "Social Changes in 1927," *Amer. Jour. Sociology*, Vol. 34, No. 1, July, 1928, p. 124.

⁴ Duffus, R. L., in *New York Times*, 4, xx, Feb. 8, 1930.

the same period. In the three years 1925 to 1928, the number of vehicles passing over the one block of Fifty-seventh Street from Fifth Avenue to

Let us now summarize concisely, and estimate the direction of these trends in the present culture of the United States.

TABLE IV—SUMMARY SHOWING INCREASES IN INDEXES OF SOCIAL STIMULATION

Year	Index of Children Affected	Changes in Social Stimulation Shown by Indexes			
		Average School Attendance	Auto Registration	Average Daily Telephone Calls	Number of Organized Groups in 53 Counties
1918.....	100	100	100	100	100
1928.....	111	131	398	185	560 (1923)

Sixth Avenue in an average nine-and-a-half-hour period increased from 11,897 to 14,498, or twenty-one per cent.⁵

Much of this traffic congestion and passenger crowding is due to the construction of many vast skyscrapers in limited areas. This type of city building increases the pressure of population on area, adds to crowding, and increases social stimulation and superficial social contacts. While it is true that comparatively few children experience the direct effects of this situation, the indirect effects are seen in jaded nerves, fatigue, and nervous irritation of adults in the home. In New York City alone there were in 1928 some forty buildings ranging from thirty-three to sixty-eight stories in height. There were two hundred buildings of twenty stories and over, although the average height of buildings on Manhattan was 4.9 stories.

Other cities than New York have skyscrapers, consequent increasing congestion of traffic, and overstimulation results. Chicago, Cleveland, Cincinnati, Detroit, Houston, Minneapolis, Pittsburgh, San Francisco, and Seattle, all have buildings over thirty stories in height.

⁵Duffus, R. L., in *New York Times*, 9, xx, Jan. 20, 1929.

It is evident that every one of these indexes has increased at a far more rapid rate than has the population affected. In other words, the volume of social stimulation and the number of social contacts have been multiplied many fold in comparison with increases in the number of children from five to seventeen years of age. This increasingly stimulating environment of the child affects him both directly and indirectly.

Let us narrow our attention from the general to the specific, and consider just how the child's life problems are complicated by this striking trend in contemporary social change. We cannot, of course, measure the trend, but we can describe the changes, in kind and degree, in the psychological processes that are involved in this growing social strenuousness of life.

FUNCTIONS OF LANGUAGE

The chief vehicle of this increased stimulation and contact is language. It is worth while to consider just what rôle the word symbol plays in our everyday life. Sometimes we are surprised at the wonder and the majesty of common things. Consider the word. It is a verbal symbol to represent things not present to sense perception.

Thus, we may talk about a cabinet which has been sent away for repairs. We may call to mind an absent friend by mention of his name. Further than this, we may represent physical movements of machinery and bodily actions in games by words. And finally, most important of all, we get our notions of the *relationship* of things and events by means of word symbols. Thus, we may describe in words a former arrangement of the furniture in our room—in short, the relationship of several objects formerly known to sense perception because they formed configurational stimuli.

All these functions of language are familiar enough and are comparatively simple. The most difficult function that words can serve is to represent abstract relationships of ideas. Here, the elements of the pattern are themselves symbols, concepts, or mathematical terms, and not sense perceptions (visual images, tactile or other sensory memories) of things previously experienced in combination.

For example, the idea of relationship conveyed in Table IV is far more difficult to grasp than are the configurational stimuli of the relative positions of different articles of furniture in the room as previously arranged; for, in Table IV we have numerical indexes of large masses of facts which neither you nor I could ever experience in sense perception. They are symbols of realities, large and numerous—realities that grow out of the accumulation of facts from many sources. These realities are not simple chairs or tables that you or I may have seen or felt.

The purpose of this somewhat abstruse analysis is to call attention to the real meaning of the fact of increase in social stimulation. This meaning is that the past decade has shown a tremendous increase in the use of abstract word symbols descriptive of complex

social relationships, rather than in the use of words descriptive of the comparatively simple and direct personal relationships of an era lacking in the mechanisms of mobility and communication. Let us be concrete, and approach the problem in two ways: let us consider the increase in (1) stimulation of the school environment; and (2) stimulation of the community life of the child.

SOCIAL STIMULATION IN SCHOOL

In the school, the child makes his transition from early, primary group associations of the family, the play group, and the neighbors, to associations of a more impersonal nature. A study of the socialization process among forty newly entered children shows that it proceeds slowly.⁶ The early, primary group associations give place to the teacher, rather than to fellow pupils, as the center of interest. Tattling is motivated by desire to court the teacher's attention, and mutual assistance and lending of materials is reluctant. Only at the close of the year does class consciousness appear. While this process is going on, the child's vocabulary and knowledge of symbolism grows.

During the past decade, the social studies have found a prominent place in the curriculum. From 1918 to 1923, the number of history texts used in high schools increased nearly 100 per cent, economics texts 500 per cent, sociology texts 250 per cent, and civics texts 200 per cent.⁷ High school courses in history and advanced civics declined from 1914 to 1923, while other social studies (elementary civics in grades nine to ten, economics, sociology, and social problems) increased over 200 per cent.⁸

⁶ Rombach, J., *Zeitschr. für angewandte Psychol.*, 30: 5-6; 1923, pp. 369-429.

⁷ *Historical Outlook*, 15: 6, June, 1924, p. 258.

⁸ *Ibid.*, p. 256.

The content of the social studies in the school is human *relationships* as they modify living.⁹ The aims of these studies are to develop (1) a consciousness of world citizenship; (2) a critical and socially minded citizenship; and (3) the ethical sense.¹⁰ We are told that the trend in history teaching is to present history in terms of movements, principles, and understandings rather than as a series of events, episodes, and personages—in short, to stress the abstract concepts rather than the personal and the concrete.¹¹ The presentation is facilitated by use of historical motion picture films. For example, an experimental study of 521 seventh-grade children, in which a regular group was paired with a film group, showed that the film group learned nineteen per cent more of historical geography; twenty-three per cent more about historical personages; and thirty-five per cent more about the *interaction of events*.¹²

The increasing dependence on the abstract symbol of social relationships in this teaching of the social studies in the schools is well brought out by a study of 7681 words used in eight history texts.¹³ The first eleven in order of frequency were: slavery, republican, political, tariff, colonial, legislature, convention, federal, colonist, democrat, revolution. The teachers were obliged to develop the concepts for which these words were the symbols. In the cases of the words underlined, the concept was particularly

abstract and consisted of word symbols of derivative groups not ordinarily the subject of the child's sense perceptions, and hence apprehended only through rather colorless word symbols—colorless at least when contrasted with such concrete and vivid word symbols of social relations as “cop,” “gang,” “fire department,” “the team,” or “Sunday school.”

The school environment thus depended more upon the use of configurational stimuli of secondary groups in 1928 than it did in 1914 or 1918. In short, the process of symbolic substitution operates to extend the social horizon of the child to an apprehension of more remote human groupings.

SECONDARY GROUPS

This trend is not confined to school studies. It is also evident in the community life of the child, where the derivative and secondary groups with which the child must deal have enormously increased, both in absolute number and especially in relation to the concrete primary groups of play, family, and neighborhood. Table V shows that the number of local units of the Y. M. C. A., Boy Scouts, Y. W. C. A., Girl Scouts, and Campfire Girls has increased in fifty-three representative counties distributed over New England, Middle Atlantic, Southern, East Central, West Central, Mountain, and Pacific states.¹⁴

These organized groups are secondary groups which compete for attention with the spontaneous play groups of the neighborhood, and assume some of the prerogatives of recreation, discipline, and protection of the child which were the possession of the family when the community was organized on a simpler pattern of social relationship. Table VI indicates to some extent that

⁹ Mossman, L. C., *Teachers College Record*, 30: 4, Jan., 1929, pp. 322-333.

¹⁰ Clagston, E. B., *Historical Outlook*, 20: 3, Mar., 1929, pp. 115-116.

¹¹ Kimmel, W. G., *Historical Outlook*, 20: 4, Apr., 1929, pp. 180-184.

¹² Knowlton, D. C., *Historical Outlook*, 20: 5, May, 1929, pp. 229-239.

¹³ Barr, A. S., and Gifford, C. W., “The Vocabulary of American Histories,” *Jour. Educat. Research*, Vol. 20, No. 2, Sept., 1929, pp. 103-121.

¹⁴ Douglass, H. Paul, *How Shall Country Youth be Served?* Doran, 1928, pp. 77-79, 91, and 103.

TABLE V—DATES OF ESTABLISHMENT OF 489 ORGANIZED GROUPS

Year	Y. M. C. A.	Boy Scouts	Y. W. C. A.	Girl Scouts	Campfire Girls	Totals	Index (See Table IV)
1918.....	7	5	7	3	3	25	100
1919.....	12	17	14	2	10	55	220
1920.....	12	15	24	13	7	71	284
1921.....	8	24	27	10	14	83	332
1922.....	12	30	29	27	17	115	460
1923.....	22	72	10	13	23	140	560
Totals..	73	163	111	68	74	489	

the numerous and often perplexing contacts afforded by these secondary groups are added to those of the existing and traditional groups of the family and the Sunday school.¹⁵

tant cities, and these headquarters are merely parts of a complex chain of headquarters from state to division to national headquarters. There are international overhead organizations also.

TABLE VI—OTHER GROUP AFFILIATIONS OF CHILDREN

Agency	Per cent from Farm Homes	Ratio of Attendance to Enrollment	Per cent Also Members of Sunday School
Y. M. C. A.....	29.3	74.5	80.4
Boy Scouts.....	17.4	78.5	85.6
Y. W. C. A.....	29.6	65.0	87.2
Girl Scouts.....	19.2	80.0	96.8
Campfire Girls.....	23.0	85.0	90.8

All of these organized groups are imported into the community from the outside and bring with them the novel ideas and practices thought to be good for country youth. These agencies act independently of one another and make similar claims for themselves. Consequently, selective attention is demanded, and children have to make decisions. The decisions often have to be based upon claims for attention which go back to differences in the policies of the national organizations. It must be remembered that these groups are local subgroups of national organizations with headquarters in dis-

This hierarchy of secondary (as distinguished from primary) organization is the policy-making body. It is remote, and its functions and purposes can be understood only in terms of word symbols of abstract relationships.

WORD SYMBOLS

Formerly, the child had fewer symbolic elements in his conversational life, for talk was about past bodily activity and about objects or persons not present to sense perception at the time. What social symbols there were—such, for example, as "Methodist Sunday school," "selectmen," "the team," "picnic," and so forth—corresponded directly to the sense perceptions of the persons or the things for

¹⁵ Douglass, H. Paul, *How Shall Country Youth be Served?* Doran, 1928, pp. 78-79, compiled from Tables XL, XLI and XLII.

which the symbols stood. On the contrary, differences between Y. M. C. A. and Boy Scouts go back to differences in the symbols of policy-making bodies, which in turn are remote and to be known to the child only by unfamiliar word symbols, such as "National Council," "Executive Committee," or "Regional Board." A clue to the remoteness of control and guidance is shown by the fact that in four counties, the membership of the county committee was made up of sixty-seven commuters as against nineteen noncommuters.¹⁶ The kaleidoscopic changes afforded by this sort of secondary group contact are revealed by a count of the length of life of 227 lapsed units of these agencies.¹⁷ Certainly the child must have found this situation puzzling in comparison with the rela-

In simpler societies, these stimuli consisted of individual parts or elements which were derived from sense perceptions (human persons). For example, it is not so difficult for a child to learn to recognize again a coöperative pattern formed of primary groups, such as a neighborhood corn-husking bee. But when the elements of the coöperative pattern (the configurational social stimuli) are themselves the symbols of derivative groups, as in the case of employee representation in the management of a national industry, or as illustrated by a national body of delegates, it is far more difficult for the child (and for most adults also) to comprehend the configurational social stimuli and to recognize again the pattern. In fact, it is doubtful whether most adult minds ever fully grasp the com-

TABLE VII—LENGTH OF LIFE OF 227 LAPSED UNITS

Length of Life in Years	Y. M. C. A.	Boy Scouts	Y. W. C. A.	Girl Scouts	Campfire Girls	Total
Under 1.....	1	15	2	0	7	25
1 to 2.....	13	32	4	4	18	71
2 to 3.....	6	29	6	5	10	56
3 to 4.....	3	19	0	0	6	28
4 to 5.....	1	14	1	1	9	26

tive stability of the more familiar primary groups.

It is evident that these stimuli are configurational in the most complex meaning of the term. Configurational social stimuli (stimuli from organized human groupings) have always played a part in human conversation and thought, from the time of such comparatively concrete stimuli as the clan and the phratry to the present period of highly derivative groups such as the executive committee of a board of directors of a house of delegates.

plexities of the simpler forms of social organization and business administration.

VISUAL SYMBOLS

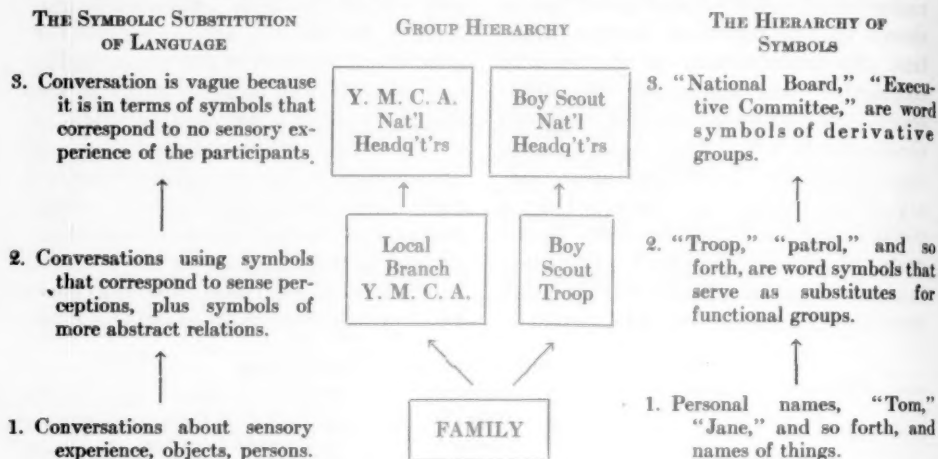
Sometimes an effort is made to describe the configurational stimuli of a pattern of complex social relationship of secondary groups by using the device of an organization chart which consists of circles, squares, and rectangles connected by arrows and dotted lines. Here, simple visual symbols are used to represent abstract relationships of structure and function, themselves symbolic, so that we have a series of symbols, one level standing for another

¹⁶ Douglass, H. Paul, *How Shall Country Youth be Served?* Doran, 1928, p. 112.

¹⁷ *Ibid.*, from Table XXXVIII, p. 77.

level. Often these charts fail to describe the complex they are designed to represent. With this warning in mind, the following diagram is an attempt to illustrate as well as to summarize the whole matter. At the left is shown the hierarchy of symbolic substitution in language. In the center are rectangles illustrating the different sorts of groups.

tems and hierarchies of derivative (secondary) groups, until there have come into existence vast ranges of social activity which are as much beyond the direct personal experience of the individual as are the stars in the milky way. Hence, it is of utmost importance to prepare the gifted child to assume the sort of intelligent leader-



At the right is shown the hierarchy of symbols which are intended to correspond to the reality of the groups.

If the centers of control of social behavior tend with recent social changes to recede from the zone of direct sense perception into the remote and shadowy zones of symbols, then it is important to insist that our gifted children have the training which will give them facility in the processes of abstract thought, for such processes are the sole key to the riddle of our increasingly complex social life.

Our data just analyzed show that this complexity takes the forms of more frequent and superficial social contacts, of primary group prerogatives (family, neighborhood, and so forth) split off and transferred to distant secondary groups,¹⁸ and of the elaboration of sys-

tem necessary in a complex social world.

MASTERY OF SYMBOLIC SUBSTITUTION

This preparation consists in learning a mastery of the processes of symbolic substitution, for many of these remote social groupings can be known only by word symbols that represent them. What do you know, for example, of the Committee on International Intellectual Coöperation of the League of Nations, beyond the mere sound of the words?

If you are yourself a member of a national committee of some sort, you perhaps leave your home in Middletown and attend an occasional conference in Washington, where you meet delegates from California and Maine and Oregon and Florida. The differing personalities of the committee members, the furnishings of the place of

¹⁸ Chapin, F. S., *Cultural Change*, 1928, pp. 316-329.

meeting, and the varied character of the discussion, all form part of the configurational stimuli which constitute for you the reality lying back of the word symbols, "National Committee." But what of the "International Committee" which meets only in Geneva? To how many of us is there a reality of sense perception back of the symbol, "International Committee"? Remember that you who read these lines are already leaders in some sense at least. What of the countless thousands to whom even "State Committee" is a mere sequence of sounds?

Is it not evident that intelligent leadership in a complex society like ours rests upon the capacity to think

in abstract concepts, to substitute symbols for distant and sometimes never-to-be experienced realities? If this be granted, then it is at once evident that there is often a great discrepancy between the reality and the word symbol which is supposed to represent it. Ignorant and naïve persons do not suspect the discrepancy and are easily lead by those who juggle symbols—that is, by those who use glib phrases and stock slogans, and who urge panaceas. It is only the socially sophisticated, and the wise whose wits have been sharpened by experience, who insist on at least some correspondence between the social symbol and the reality for which it stands.

The Changing Family with Regard to the Child

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THE recent changes in the family as they affect the child may perhaps be summarized under three heads—the size of the family, broken homes, and the functions of the family.

THE SIZE OF THE FAMILY

The size of the family has probably become smaller during the past decade. The census of 1930, though taken this year, will not publish for perhaps two years the information it is collecting on the family. It will in all probability publish information regarding the size of the household and its composition; but for previous censuses, such information has not been published nor tabulated, though it has been collected.

Special tabulations of large samples from unpublished census data show that from 1900 to 1920, the family decreased in size considerably. For instance, in cities of around 100,000 inhabitants in the Middle West, the average size of the families (parents and children only) of the well-to-do classes was 3.9 persons in 1900 and 3.7 in 1920, the age of the mother being thirty-five to thirty-nine years. This is a decline of about five per cent. In very large cities, the decline was about eight per cent—from 3.7 to 3.3 persons. On the farms that were owned by the persons farming them, the decline was about two per cent—from 4.9 to 4.8 persons.

Since 1920, we do not have similar information; but if the birth rate is an indication, there has been a decline, as the birth rate has decreased since the war much more rapidly than in previous years, as is shown in another paper in this volume.

What effect does the small family have on the child? In the first place, the child does not have as many brothers and sisters, hence the total number of his contacts with the children of the family is reduced, and where there is only one child there are no such contacts. Furthermore, since the children in the neighbors' families are also few, the number of contacts with other children is reduced.

Attendance at school tends to compensate somewhat for the lack of contact with brothers and sisters. Children do not ordinarily go to school until about six years of age, however, and they spend only from one fifth to one quarter of their time at school. According, therefore, as their time with other children is lessened, they are alone more or are with adults more. Where the mothers do not work outside the home, the children are probably more with their mothers in particular, except, perhaps, in those very few rich families where there are nurses and governesses.

PERSONALITY AFFECTED BY FAMILY INFLUENCES

What is the effect of such a diminished association with other children and of such an increased association with mothers? We cannot give an accurate factual answer. It is possible, however, to develop some hypotheses. One may speculate somewhat as follows. The personality of a child is largely a matter of conditioned responses. Under the small family system, there is probably more repetition of response to fewer persons, particu-

larly the mother, and less response to a variety of persons. One may imagine that such a process may lead to development of a more distinct personality, and somewhat less to a generalized product.

This is the reverse of the changes in the industrial process. We are departing from mass production to the handicrafts, so to speak. While there may be more distinct personalities in contrast to the merely healthy biological-animal type, it is possible that such a process as we have outlined may produce more nervousness, more neuroses, and more psychoses. This last point may not be true, especially since the causes of neuroses and psychoses are by no means clear. This point is, however, based upon certain rather elaborate theories regarding personality and neuroses, although there is hardly time or space to go into them here.

The stronger conditioning of the affectionate elements of a child's nature by one person, say a mother, a nurse, or an older brother or sister, may make it more difficult for the child to find a successful mate in later life. Furthermore, if a child spends proportionately more time by himself, it is quite possible that his daydreaming tendencies will be accentuated, as will also be his tendencies toward introversion.

This question of the family influences on the personality of the child has recently been discussed a good deal in connection with the personality of the only child and also with that of the oldest child, the middle child, and the youngest child. The only and the oldest child are said to be more variable, while the middle child is thought to be the more ordinary, that is, nearer the mode. The youngest child is said to be somewhat more variable than the middle child, but not so much so as the only or the oldest child. In the small

family system, the middle child tends to drop out of our considerations. He is there sometimes, but often the spacing of the children is such as to make him like a youngest child.

The small families, then, tend to have only children, oldest children, and youngest children. Here again, the spacing of children may sometimes make the oldest child like an only child. Also, the fact that the two sexes have competitive relationships slightly different from those of children of the same sex makes children in small families even more subject to the influences which are similar to those thrown around the only children.

The frequent play of children in groups is perhaps one of the easiest and best corrections of personality disorders, if it is begun early enough and pursued wisely. It tends to break the excessive conditioning on one person, and encourages an attitude toward reality held by others. Besides, there is the training in group standards and group achievement, which is of considerable practical value in the personality problems of adults.

So, we think that the small family system tends to produce exceptional personalities, but also neurotics, and that it is somewhat less likely to produce the average, normal human being than is the large family system, where children play a great deal together in groups. These statements are not expressed in measurements and, if true, are probably exaggerations or distortions of the truth.

SOCIAL ASPECTS OF REDUCTION IN FAMILY

The smaller families also mean that for society as a whole there are not so many dependent children for whom taxes on adults must be levied. With fewer children in the first grade than in the second, society ought to be in

a better position to provide superior educational facilities. With fewer children, the amount of resources per child will be greater even with stationary resources. But, of course, our wealth is increasing more rapidly than families are declining, so it seems that, during the remainder of the twentieth century, we ought to care very well for our children.

The small number of children born per family tends, of course, to free the time of mothers from the exacting and time-consuming duties of the care of the children. For instance, two children born reasonably close together cease to be very time-consuming after ten or twelve years, or even less. Thus, women are freed for greater activity outside the home—employment, or voluntary activities. This movement of mothers outside the home is accentuated by the increase of labor-saving machinery in and outside the home and by the development of congregate living.

The small number of children also has the effect of producing a lonely old age. The changes in the size of families occurring in the decade since the war will not make this condition of old age felt until some years later; though changes in the family thirty and forty years ago in our cities, together with the great mobility of our population and the prolongation of life, are making a very serious problem of old age today.

The smaller size of family also means that the family expense is not so great as it would have been if the family were larger. This fact tends to have the effect of raising the standard of living, which, in turn, is not without its effect upon the child.

It should be remembered that while we do not have the statistics of the change in the size of the family, it has not been so great as the precipitous

fall in the birth rate would indicate, as there has been also a decline in the death rate.

BROKEN HOMES

Homes may be disorganized in many ways, but one of the most serious for children is the death of one or both of their parents or the separation of their parents. We do not have the statistics of the changes during the past decade in the extent of broken homes, so defined. We do know that divorce has been increasing yearly since the census taken shortly after the war. In 1922, the ratio of divorces to marriages was ten to seventy-six, while in 1928 the ratio was ten to sixty. This almost surely means that if conditions remain as they are, one in about every six marriages contracted will end in a divorce court.

There are, it should be noted, a larger number of couples separated but not divorced than there are couples divorced. But it should be remembered that many divorced persons remarry and found presumably happy homes. However, that does not ideally solve the problem of the children in the home broken by divorce, though it may solve the marital problem of one or both parents. Fortunately, perhaps, divorces are much less frequent in cases where there are children than in homes without children. Indeed, there seems to be a small but growing opinion that divorce and separation are not matters of very great concern to the state unless there are children in existence or on the way. Then the state becomes very much concerned.

We do not know whether a larger or smaller proportion of parents secured divorces at the end of the decade than at the beginning. However, it would probably not be fair to assume that the increase in divorce was wholly among the childless couples.

We do know that the number of husbands and wives living apart is quite large, for in 1920, of all the married couples in one large American city, one in seventeen was not living together. It is very probable that in our large cities, the number of children living in homes broken by death, divorce, or separation is not very far from one in five.

WIDOWHOOD

The greatest cause of broken homes is widowhood. The number of widowed persons is large. In 1920, of the population fifteen years old and over, one in thirteen was widowed. Fortunately, however, widowhood is not so great in the early years, when the children are young. Widowhood increases with age, as is shown by the following table.

PERCENTAGE OF THE POPULATION OF EACH AGE GROUP THAT IS WIDOWED, UNITED STATES, 1920

Age	Per cent
15-19.....	0.14
20-24.....	0.9
25-29.....	1.9
30-34.....	2.8
35-44.....	5.0
45-54.....	10.2
55-64.....	19.8
65+.....	42.6

Widowhood is about twice as great among women as among men. This is due to the greater number of widowed men remarrying, rather than to the great death rate among men.

Just what effect widowhood has upon the children is not clear. Among women left with children at their husbands' death, the loss of income is very serious; the sense of responsibility among the children, however, may be deepened, also the bond of affection may be increased. With the children of parents who remarry or with children

left by widowed fathers, the conditioning of the affection of the child upon a parent may be weakened.

It does not seem probable that the amount of widowhood has increased per 100,000 adults since 1920, at least in the younger years of life. Medical progress has rather prolonged the expectation of life of men and women under 45 years of age. There has, however, been little prolongation of life for the later ages; but in these ages the children are grown up. The percentage of marriage seems to be increasing slightly, so it is possible that more widows and widowers, as well as divorced persons, are remarrying.

THE FUNCTIONS OF THE FAMILY

The family has been losing some of the economic and social functions possessed by it in earlier days, and this loss is not without effect upon the education of the child. For instance, the construction of new houses during the past decade shows much greater increase of homes in multi-family dwellings than in single family dwellings. These statistics are for cities.

Living in an apartment house or a flat with central heating and without porches and yards is very different for the child from living on a farm or in a single family dwelling. The household duties are less, and hence the child loses the training and the responsibilities that go with these duties. So also, the great growth of power laundries, of canning and preserving factories, of bakeries, and of restaurants, and the development of household conveniences such as the telephone, electric lights, electric refrigeration, vacuum cleaners, and bathroom facilities, mean that the household duties have diminished greatly. There is thus very little manual training, for the children in such homes. So also, there is not so much opportunity for the development of the

spirit of coöperative enterprise and of responsibility as formerly.

The statistics of manufacturers, which are published every two years, show very strikingly the loss of these functions during the past decade. This loss means a considerable change in the aspect of the modern home in the large city as compared with the home on the farm where the moss covered bucket hung in the well. To say that the modern home is a point of departure, or "where one hangs one's hat," is a gross exaggeration; but the home is less distant from such a condition than it was a generation ago.

HOME MEANS LESS TO CHILDREN

It is not only the economic functions of the family that are declining, but others as well. For instance, mothers are sending their children to school earlier. About one in six children between five and six years old is in school; so that for formal education the child looks less to the home than formerly. Also, such training as comes out of play is often outside the home, as the gangs of our cities testify. Religious instruction in the home has also probably declined somewhat during the decade.

There is one other factor which indicates that the home means less for the child, and that is the increasing mobility of the population, which has been particularly great during the past decade. Very few families in our cities own their homes. Over long periods, the tendency has been for the percentage of renters to increase, and presumably this has been true since the war. Renting means a more frequent change of homestead, since it is easier to rent than it is to sell a house. The increasing facility of transportation by automobile, bus, and railroad, together with the ups and downs of industry, means that families move about more than formerly. Even where there is no permanent separation of husband and wife, one or the other is often away from home because of the greater use of the facilities of travel and the demands of industry.

In conclusion, therefore, it seems that the family may have become slightly smaller, perhaps a little more disorganized, and certainly it has suffered a fairly significant loss of functions. As to happiness, we cannot say. It may have increased. These changes bring possibilities but also dangers for the children.

Recent Changes in the Birth Rate and Their Significance for Child Welfare

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IN a brief paper such as this, one can do little more than call attention to the principal changes in the birth rate in this country during the past decade. Unfortunately one cannot even do this entirely satisfactorily, since it is only within the past year that all the states have been gathered into the fold of the Registration Area. Consequently we only know in a general way the tendencies in the birth rate for a number of states.

THE DOWNWARD TREND

The trend that stands out most clearly in this last decade is, of course, the downward trend. This is shown in the following table which gives the crude birth rates for the Registration Area as far as these are available at the present time (February 1930).

TABLE I—BIRTH RATE IN THE REGISTRATION AREA, 1919-1929

Year	Crude Birth Rate
1919.....	22.3
1920.....	23.7
1921.....	24.3
1922.....	22.5
1923.....	22.4
1924.....	22.6
1925.....	21.4
1926.....	20.6
1927.....	20.7
1928.....	19.7

Naturally the birth rate was somewhat affected by the mobilization of more than three million young men in army camps and this shows in the rate

for 1919 which was about 2.5 points below the average for the preceding four years. It rose, however, following this slump, and in 1921 was only about 0.7 points below the rate of 1915 and 1916. It fell again after 1921 and remained about stationary during the period 1922-1924, after which it again fell, reaching a new low level (19.7) in 1928 with indications of its fall about another point (18.7) in 1929. This (18.7) is 23 per cent lower than the high point of the decade (24.3) in 1921 and over one fourth lower than in the years before our entrance into the war.

Perhaps the magnitude of this decline can be made clearer if we deal with absolute numbers for a moment. Assuming that the birth rates for the Registration Area were representative of our entire population, there were approximately 2,619,000 births in this country in 1921. If a rate of 18.7 prevailed in 1929, which now appears quite probable, there were only 2,280,000 births this year, making a decline of 339,000 in actual births within eight years, although there was an increase of approximately twelve to fourteen million in our population.

In all probability, the decline in the number of births has actually been somewhat in excess of 339,000, because the Registration Area of a decade ago contained only about three fifths of our population, while that of 1929 included practically all of our population. Moreover, the states missing in the early years of this last decade were chiefly southern and western states, most of which have considerably higher

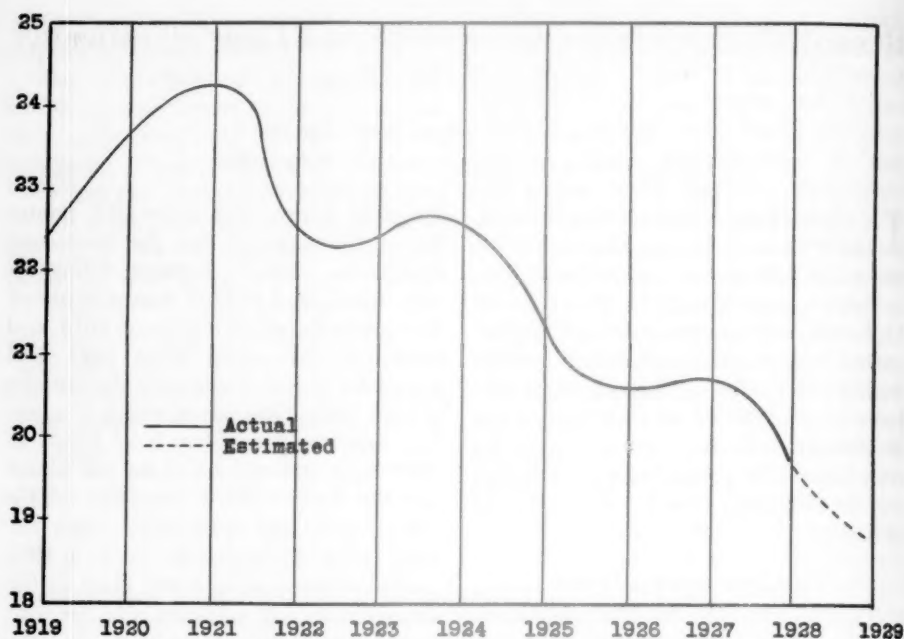


FIG. 1.—THE CRUDE BIRTH RATE IN THE UNITED STATES, 1919-1929

birth rates than those in the northeast, which were well represented in the area at that time. Consequently, the actual crude rate from 1919 to 1921

was probably more in excess of the recorded rate than it now is when these southern and western states are included in the area.

TABLE II—BIRTH RATE IN CERTAIN STATES IN 1920 AND 1928

State	1920	1928	Decline, 1920 to 1928	
			In Points	In Per Cent
Connecticut	24.5	16.8	7.7	31.4
New York	22.5	19.3	3.2	14.2
Pennsylvania	25.2	20.4	4.8	19.0
Kansas	22.3	18.4	3.9	17.5
Virginia	28.3	21.9	6.4	22.6
White	27.8	...	...	...
Colored	29.7	...	...	...
North Carolina	31.6	27.5	4.1	13.0
White	31.7	...	...	...
Colored	31.3	...	...	...
South Carolina	28.2	23.2	5.0	17.7
White	28.8	...	...	...
Colored	27.7	...	...	...
Kentucky	26.0	22.7	3.3	12.7
Oregon	18.9	15.6	3.3	17.5
California	19.3	18.3	1.0	5.2

In any event, there has been a very great decline in the birth rate during the last decade, and it has affected almost all localities and groups to some extent, although it has been considerably greater in some regions than in others. The states in the preceding table have been chosen because they are believed to be representative of different parts of the country.

LOCALIZATION OF THE DECLINE

The largest decline shown here is in Connecticut and the smallest is in California. The situation in Connecticut is undoubtedly to be explained very largely by the decline in the proportion of all births contributed by foreign-born women. The foreign-born women who came to this country before the war are now rapidly passing out of the childbearing ages and are not being replaced by new arrivals. Their daughters who are now marrying are native and they are not raising the large families their mothers did.

Without doubt, the situation in Pennsylvania is quite similar to that in Connecticut. The replacement of foreign-born women by their daughters as mothers has resulted in a rapid lowering of the birth rate. Also, in these states the lack of immigrant replacements has in all probability resulted in an age composition less favorable to the maintenance of a high birth rate. The proportion of the women who are over thirty-five has no doubt increased somewhat since 1920, while the proportion twenty to thirty-five has decreased, and it is these younger women who bear the larger part of the children.

What has been happening in California is not so clear. Population has been growing rapidly there and it is possible that the base on which California's birth rates is calculated contains a large margin of error. If, for example, the increase in population

has been underestimated, then, with a given number of births, the rate would appear higher than it actually is. This may well be the case.

Again, it may be that the migrants into California from other parts of the country during the last decade are at the ages when they should contribute largely to the next generation; that is, the age composition of the population of California may now be more favorable to the maintenance of birth rates at former levels than it was in 1920. In the third place, it is possible that the rapid influx of Mexicans having a high birth rate has been large enough to prevent any considerable decline in the general birth rate for the whole population of the state. Finally, it may be that since the birth rate in California was already near the point where there would be no natural increase of population, this slight decline represents a tendency to stabilize the birth rate at about the point needed to maintain numbers.

This is only a *guess*, of course; but it appears to be happening in France and may possibly indicate that a term is to be put to the decline which has been going on for some decades now.

There is also clear evidence in these data that the birth rate is declining rapidly in those parts of the country which have hitherto shown themselves the least susceptible to the assaults of birth control propaganda. Virginia, North Carolina, and South Carolina show a very marked decline in their birth rates. These are the only distinctly southern states for which we have data in both 1920 and 1928. The data are all the more significant in the case of South Carolina because the registration of births was found so defective there in 1920 that it was dropped from the area until 1928, when it was readmitted. Therefore, the decline of five points shown here for

that state between these two years is certainly a minimum. The real decline is probably a point or two greater.

Kentucky, which, though not a distinctly southern state, has many of the demographic characteristics of the South on account of its large mountain population and the isolation of a large part of its people from urban influence, also shows a marked decline in its birth rate. It is too large not to suppose that it arises from a very general decline in all parts of the state and in all classes of the population; although in the case of Kentucky there has been a very considerable emigration of young adults into neighboring states and into certain industries farther away, notably the automobile industry in Detroit, which may account for a part of the decline in the birth rate. The population remaining at home may have a less favorable age composition from the standpoint of maintaining a high birth rate than the population of 1920. Again we must await the census to be certain of what weight should be attached to these various factors and in particular to learn the exact situation of many smaller communities.

WHITE VERSUS NEGRO BIRTH RATES

It should also be noted that the data for the southern states do not distinguish between whites and Negroes for 1928. This is because the full reports for this have not yet been issued. Whelpton¹ has shown, however, that the decline in the crude birth rate in the southern states is greater among the whites than among the Negroes. But even among the latter it is sufficient to leave no doubt in any one's mind regarding the general downward trend.

¹ Whelpton, P. K., "Trends in Population Differentials and Age Composition," *American Journal of Sociology*, Vol. 35, No. 6, May 1930.

In the northern states, on the other hand, the Negro birth rate appears to be increasing. It is certainly of interest to learn that this is the only part of our population that shows an increase in the birth rate since 1920. It is hard to explain this increase in rate, although two or three possible explanations suggest themselves.

In the first place, it may be that the movement of Negroes into the North, particularly into the northern cities, has been more rapid than the census estimates indicate, with the result that their birth rates are calculated on too small a base. In other words, the higher rate may not indicate a real increase in fertility but only that the births are attributed to too small a population. Where the numbers dealt with are rather small and migration is relatively large, this is certainly a possibility. In the second place, the age composition of the Negro women in the North may have been so changed by the rapid influx of young people that this population would have a higher birth rate now than in 1920, even though the birth rates per thousand women at each age are no greater than formerly. Finally, it may be that the fertility of Negro women has actually increased because of the fact that the Negroes in our northern cities are becoming more settled and feel better able to raise families than they did when they arrived. To the author, the last of these reasons seems the least probable, but again only a census will surely tell.

FOREIGN VERSUS NATIVE BIRTH RATES

As regards the births to foreign and native mothers, Whelpton² has shown that in most parts of the country, native mothers gave birth to more children in 1928 than in 1920, while foreign-

² *Op. cit.*

born mothers gave birth to fewer children. In the west north central states and the southern states the births to native mothers were fewer in 1928 than in 1920. On the other hand, foreign-born mothers gave birth to fewer children in 1928 than in 1920 in all parts of the country, except on the Pacific coast.

Clearly, the restriction of immigration is beginning to show its effects on the birth rate. The children of immigrants are going to constitute a smaller and smaller fraction of the total births in the country. We may confidently expect, therefore, a very marked decline in the birth rates in our large cities and in other areas which have been peopled in the past to a great extent by immigrants. The daughters of immigrant women belong with the natives rather than with the foreign-born in the matter of raising families.

AGRICULTURAL VERSUS URBAN RATES

As has been the case for a long time, the agricultural regions still have distinctly higher birth rates than the urban industrial areas. Compare Kentucky and the Carolinas with the northeastern states and the Pacific coast states and this difference is at once apparent. Unfortunately, at this distance from the 1920 census and with the large movement of population from the country to the city which has taken place since 1920, we can do no more than compare states which are predominantly of these different types.

The true rate of natural increase calculated by the formula of Dublin and Lotka as given by Whelpton³ shows that the decline has been slightly greater in the agricultural states than in the more urban states. It is not improbable that this is due in part to the rapid movement of young adults from the agricultural regions to the

industrial areas. But this will certainly not account for the entire change shown, and the universality of the decline in the birth rate cannot but indicate that whatever the factors at work may be, they are much the same all over the country and that they are becoming effective in all classes of the population.

BIRTH CONTROL

It is impossible to say anything very definite about recent changes in birth control. One can only point to the decline in the birth rate just noted and ask whether this is due to the increasing practice of contraception—for whatever reasons it may be practiced—or to some physiological condition which renders people less able to reproduce than formerly. We can rule out changes in age at marriage and in the proportion of women married.

The author has no information on this matter which is not available to every one. It does seem to him, however, that there is every reason to believe it is contraception rather than physiological changes in reproductive capacity that is the chief factor through which the major portion of the recent decline in the birth rate is being effected. Certainly the variety and the effectiveness of contraceptive devices are greater than ever before, as is also the ease with which they can be procured.

Furthermore, the number of birth-control clinics is steadily increasing and inquiries as to the type of people who avail themselves of the services of these clinics indicate that the poorer people who have heretofore rarely practiced contraception welcome the opportunity these clinics offer to keep their families smaller. They also show that people of all religious faiths—both those who are definitely opposed to birth control and those who are neutral—come in

³*Op. cit.*

large numbers. About one third of the women applying to the New York clinic for aid report their religion as Roman Catholic, and for obvious reasons this is probably an understatement. There can be no reasonable doubt that the practice of birth control is rapidly spreading from the well-to-do and white-collar classes in the cities to the people of poorer economic status and also into the country districts.

Already there is clear evidence that a good many sections of our population are failing to reproduce. This is brought out by Professor Whelpton in the paper already referred to. Our large cities, some of our northeastern states, and the west coast states have a *true rate*⁴ of natural decrease rather than a natural increase; and if the present decline continues for another decade there will remain only parts of the South where the *true* difference between death rates and birth rates is a plus rather than a minus quantity. Any further increase in the use of contraception will, of course, hasten the time when the true rates will become the actual crude rates.

DECLINE IN THE BIRTH RATE AND CHILD WELFARE

Now, it is quite obvious that this decline in the birth rate must have some very marked effects upon the need for and the nature of child welfare work. If we have passed the time when the absolute number of children born each year shows a large and steady increase, there will be less need for the expansion of the work of certain welfare agencies

⁴ By *true rate* I refer to a rate calculated on the basis of certain specific rates (by age) applied to a population having the age composition which it would have if these rates had prevailed for some time—perhaps for three or four decades. The formula used is that given by Dublin and Lotka in the *Journal of the American Statistical Association*, Vol. 20, No. 151, pp. 305-40, September 1925.

than there has been heretofore. Besides, if the birth-control advocates are right, and there is certainly some reason to think they are, the decrease in the size of the families of the poorer classes will render the parents in these classes more capable of caring for the physical needs of their children than they have been in the past and therefore less in need of outside assistance. The father's earnings will not have to provide food for as many mouths, clothing to cover as many bodies, shoes for as many feet, or other necessities for as large a number as they have had to do hitherto. There should, then, be less occasion for these people to call upon charity than there has been when their families grew without any kind of restriction.

Besides, mothers who are not burdened with new babies every year should be able to supply care and spiritual direction in larger measure to their smaller flocks. With a growing amount of involuntary sterility—and this appears to be a fact, even though it is a minor factor in the general decline of the birth rate—it should also be easier to find good homes for children who come into the custody of public and private child welfare agencies.

This change in the physical burdens carried by child welfare agencies will only become an actual decrease, of course, provided that the family remains as stable as it has been. It is quite obvious, however, that this is a rather dubious assumption. Hence, it may well happen that child welfare agencies will find that although the father and mother are better able to care for the physical needs of their children than ever before, they are not assuming this responsibility to the full measure of their ability and, besides, that they are less and less disposed to maintain a stable family group for the sake of rearing children.

Thus, even the quantitative problems of child welfare may not decrease in importance as it would appear that they ought to do in a period of a rapidly declining birth rate and of improvement in the economic welfare of the community as a whole. Personally, I am disposed to believe that there will be a decline in the need for outside assistance of the family in caring for the physical well-being of children; but the whole situation is so complicated that one cannot predict such a trend with any degree of assurance. The changing form of family life may well upset any prediction in this matter.

There can scarcely be any doubt, however, that the problems of the mental adjustment of children to life are going to increase greatly, even if there are somewhat fewer children in our future population. Undoubtedly

this subject will be discussed elsewhere in this volume in the detail it merits, so I shall only say here that children born into a world which is sweeping away its traditions as rapidly as we are, cannot possibly get from their parents or from the schools—unless both grow far more rapidly in knowledge and wisdom than they have been doing recently—the training and the guidance which will enable them to become useful citizens and to live happily. The complexity of life is increasing so fast that these older agencies apparently cannot keep up with it. In developing new methods of adjusting the child to this new world lies the future of child welfare work. It is a most difficult task and it is most devoutly to be hoped that the agencies interested in child welfare will successfully meet the challenge it throws out to them.

Ten Years' Progress in Parent Education

By RALPH P. BRIDGMAN

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IN today's social thinking, a comprehensive child welfare program includes four major divisions: (1) efforts of a remedial and corrective nature to provide proper care and development for children presenting problems of dependency, personality, and behavior; (2) efforts to secure, by social engineering, such family income, housing, sanitation, and other material necessities as are essential to healthy growth of minds and bodies; (3) efforts to provide, through clubs, settlements, recreation centers, and extra-instructional school activities, the basic recreation-education and guidance in meeting the demands of adult relationships that are no longer adequately supplied by increasingly machine-controlled and decentralized family life, or by increasingly commercialized and urbanized adolescent community contacts; (4) direct efforts to help parents and parent substitutes more adequately to care for and guide the growth of their children, now generally called parent education.

INCIDENTAL TYPES OF PARENT EDUCATION

In one sense, the education of parents has always been taking place. Day by day contacts at market place or community club, or over the back fence, have always possessed educational values for those who could find and use them. Such parent education is as old as civilization itself.

A more controlled type of educational experience is supplied by sermons, magazine articles, popular lectures, and radio talks; by visits of par-

ents to schools and of teachers to homes; by contacts of health and child guidance clinics, and of courts with parent clients, and by social case work. Such activities aim primarily to secure the adoption of a new idea or practice; to inspire, entertain, or correct and cure—always to do something other than educate. The education of parents participating is frequently—and this is increasingly true today—an implicit or a secondary concern of those responsible. Methods used by some professionals in these fields preclude any possibility of a real educational experience. As religious and social workers come into fuller understanding and command of educational methods, we may expect an increase of education in their activities.

This article is concerned not with these informal and incidental types of parent education, but first, with the work of agencies or departments organized for the specific purpose of carrying on the education of parents, either by means of discussion groups in child care and guidance and family relationship problems, or by individual contacts; and second, with the federation of these agencies into a self-conscious, nation-wide movement.

Among the nation's child welfare forces, parent education must be reckoned a toddler whose birth and infancy exactly coincide with the decade since the war. In 1919, apart from home economics extension work which included child management, only two organizations were known to be carrying on programs of child study for parents, and their activities were

more individual-cultural than of a welfare nature: The Federation for Child Study, in New York, and the National Congress of Mothers and Parent-Teacher Associations, with headquarters in Washington.

Today, organized parent education programs under professional direction are in operation in twenty-two states of the Union, one of which has recently developed a state council of parent education, and three of which have state directors. Six universities and two schools for social work offer graduate professional training for parent education workers. A National Council of Parent Education, with a membership of sixty-one agencies, coordinates and integrates a rapidly growing and increasingly self-conscious movement.

PARENT EDUCATION AS ADJUSTMENT TO MODERN LIFE

Whence the motivation of this tremendously rapid growth? "Parents want help" is the simplest and the most nearly true answer. Evidence abounds. "They give us classes in millinery and candy-making," said one mother scornfully, "but nothing about children!" Another said, more thoughtfully, "I don't want to make the same mistakes with my children that my husband's mother made with him." Both were leading committees of men and women in the organization of parent education agencies in their cities. Professionals regularly report unfulfilled requests for their services. "We could conduct twice forty groups if we had the leaders." "My schedule for the winter was full within two weeks and I had to tell two groups already organized that they would have to wait another year for leaders."

In literally hundreds of communities where no organized parent education services are available, teachers, physicians, and psychologists have been

secured by parents for lectures or discussion groups on child development and family relationship problems. The enormous popularity of university correspondence courses in child psychology and of syndicated newspaper advice on bringing up children, the increasing number of parent education articles in the women's magazines, and the number and rising circulation of magazines devoted specifically to parents' problems, all attest a nation-wide hunger.

This desire for help is meeting with hearty response from educators, physicians, and social scientists. Social engineers seeking more effective areas of social control are saying that parent education is a strategic venture. Social workers in philosophizing over their earlier hopes for the reconstruction of society are realizing that persistent remedial and corrective work unaccompanied by a program of education and prevention is short-sighted and wasteful. "Homes and communities today are creating maladjusted individuals faster than the increasing corps of social workers can deal with them." Mental hygiene workers, in so far as they recognize functional origins in behavior problems and neuroses, are increasingly emphasizing the importance for mental health and normal personality growth, of wholesome home relationships in early years.

Educators who assume responsibility for the physical health and for the vocational and behavior adjustments of children passing through their schools, are finding effective functioning in these respects impossible without the understanding and the cooperation of parents. The extension of education downward to include children of nursery age, two to four years, has fortunately emphasized the need for close parent relationships. The National Committee on Nursery Schools includes

both child study groups and individual conferences with parents among its minimum standards for nursery schools. A philosopher proposes four aims for public education: increasingly effective individual functioning (a) in vocation, (b) in parenthood, (c) in the enjoyment of leisure and culture, and (d) in citizenship. He adds, "Education for parenthood has been unwisely neglected."

So it is that parent education in this country derives both from the growing consciousness of parents that they need guidance and from the professional interests of educators, mental hygienists, and social engineers.

Back of the needs and the interests of parents, however, lie more fundamental considerations. The rapidity of social change in this century and the lag of the schools in adapting themselves to it have been responsible for a great wave of interest in adult education. "There are at least five times as many adults, men and women, pursuing some form of educational study as are registered as candidates for degrees in all the colleges and universities of this country."¹ The desire to keep up with the times and to be prepared adequately for getting the most out of life, including parenthood, seem to be the human motives back of this movement. The need for parent education is a part of the need for adult education generally.

But there are still more fundamental considerations. Probably in no other decade in history has there been such rapid application of scientific technology to everyday affairs and such rapid and profound change in the structure of home life, in the daily habits of individuals living in families, and in attitudes of parents and children towards each other. Parents are living at the

center of these changes. They know that a new world is coming into being because they feel and see it in their own households. All are confused, some utterly bewildered. Sharply they are reminded that they can no longer function as parents simply by relying upon their instinctive equipment. The need for parent education is a deeply felt need and it is rooted in the very structure of modern life.²

A SCIENTIFIC FOUNDATION

Neither deep desire nor strong conviction of value, however, could have brought forth a parent education movement. Scientific foundations were needed, and fortunately they were at hand. From 1890 to 1915, G. Stanley Hall developed an American school of child study. Methods of psychology and of social science were applied to the study of children's reactions and development. Both the findings of this school and its methods were soon discredited by researchers avowedly more scientific. The movement lagged. During the last decade, however, it has found worthy successors. Several centers of child development research, using more carefully tested methods and proceeding more slowly, have been making studies and publishing findings which properly become basic content material for parent education workers. The Yale Psycho-Clinic under Arnold Gesell, and the Iowa Child Welfare Research Station, of which the late Bird Baldwin was director, are outstanding examples.

Of equal importance to parent education are several recent studies in psychology and educational method. Thorndike's study of adult ability to learn, and his conclusion that rapidity and ease in learning decrease so slowly that grown-ups at fifty can learn as

¹ Keppel, F. P., "Education for Adults," *Yale Review*, April, 1926.

² Lindeman, E. C., "Parent Education in the Modern World," *Child Study*, May, 1930.

rapidly as children of fifteen, give assurance that parent education is not attempting the impossible. Studies by Lindeman, Elliott, and The Inquiry staff of group discussion and conference methods point the way to increasingly effective group procedures.

Finally, the personality case studies of child guidance clinics and visiting teachers have supplied valuable teaching material and a point of view regarding personality development of which parent education workers are increasingly taking account.

Without such research as this in child development and educational method, and without such studies by mental hygiene workers, parent education today might have been as sentimental and as ineffective as similarly motivated movements of the past. Scientific research in education, psychology, and child development is making possible a scientifically sound parent education movement.

1815 TO 1919

The educational forebears of the parent education of today are found as far back as 1815, when the first mothers' meeting of which note has survived was held in Portland, Maine. This and similar meetings up to 1862 are referred to in a diary kept from 1863 to 1882 by a lady who organized mothers' groups in Chicago.

They were largely inspired by concern for the religious and moral improvement of children, and they depended for guidance largely upon the wisdom that might come from discussing their problems, and upon the inspiration of their leaders, together with the strength they might get from prayer and biblical texts.³

Similar meetings in many churches survive today under the name of mothers' meetings or mothers' clubs.

In the 1830's, William Alexander Alcott—physician and pioneer in

physical education and school reform, and a member of the famous Concord family—

reprinted articles by leading writers on educational subjects, many of which were directed to parents as offering the maturest opinions on their common problems. His counsels were based on what was then the best available knowledge regarding the nature of the child, and on the experience of successful educators and parents.⁴

In 1888, in New York, an experimentally minded schoolmaster met regularly with three mothers for the study of the history and the progress of education as it might be related to their own problems of child training. The next year saw this group enlarged to five, meeting weekly and following an outlined course of study. In 1890, thirty new members joined, and the group became "The Society for the Study of Child Nature." In 1896, a second group was organized in a suburb, and in 1903, a third. During the next five years several new "chapters" were started, and in 1908 they came together to organize "The Federation for Child Study, to secure, tabulate and distribute information concerning methods of child study and their practical application, to undertake original research, to furnish means of coöperation between societies having similar aims, and to conduct conferences and lectures." By 1919, the Federation was conducting or in touch with thirty-five child study groups, was sending speakers to as many more organizations each year, and was preparing its first publication.

In 1897, a group of mothers assisted by several prominent educators, clergymen, and politicians organized "The National Congress of Mothers for the purpose of carrying 'mother-love and mother-thought into all that concerns

³ Gruenberg, Sidonie M., "Parents Past and Present," *Child Study*, Nov., 1928.

or touches childhood in home, school, church or state.'" Branches were organized throughout the country and the magazine *Child Welfare* was established. To secure mother-influence in the schools, the Congress, in 1904, launched a campaign for the organization of parent-teacher associations. This movement grew so popular that in 1907 a special department was created to care for this work, and the following year the Congress of Mothers became the National Congress of Mothers and Parent-Teacher Associations. Its membership soon reached 100,000. By 1919, branches in every state of the union were promoting the organization of local associations and of preschool study circles for mothers.

It was during the first two decades of this century, also, that scientific technology (both its resources and its methods of thinking) began to invade American home life. Homemaking should no longer be governed by instinct alone, people said; it must become scientific. Cooking and sewing courses in high schools and colleges soon expanded into four-year curricula in which chemistry, biology, bacteriology, sociology, psychology, child care, and nursing were taught. Not only must girls be prepared for scientific homemaking, but mothers who wished it should have the opportunity of learning how to apply science to home management problems.

In 1914, the Smith-Lever Act made provision for two thousand county home demonstration agents, and in 1917, the Smith-Hughes Act gave Federal support to vocational home economics teaching. Extension classes, institutes, exhibits, and demonstrations for the teaching of nutrition and child care soon developed in several sections of the country. Some of this work was what would now be called parent education, but its chief empha-

sis was on the techniques of homemaking and management. It helped to prepare the way for the amazingly rapid development of parent education during the next decade.

NATIONAL ORGANIZATIONS⁴

Immediately following the war, the Federation for Child Study, the oldest organization in the field and the best equipped, began to receive requests for assistance from all parts of the country. For five years it struggled along under an increasingly heavy load. In 1924, it incorporated as the Child Study Association of America, and with financial assistance granted by the Laura Spelman Rockefeller Memorial, it widened both scope and method to include the nation-wide organization and supervision of parent education groups, the training of workers, the publication of educational materials, and the enlargement of its magazine *Child Study* for a national audience.

Today, the Association's membership numbers six thousand, and its services each year reach many thousands more. Its original purpose—to assist parents in the rearing of their children—still remains central. Child study groups are still its principal activity. On the method side they are supplemented by a consultation service, staffed by a psychiatrist and a social case worker, which offers to study group members the opportunity

⁴ This and the next four sections deal with the organization and the development of parent education agencies in this country. Treatment is selective. Many agencies are not mentioned at all, and some whose work is similar to that of other agencies described more fully are mentioned briefly. For fuller descriptions, see the *28th Yearbook of the National Society for the Study of Education, Preschool and Parental Education*, Chap. 10; reports of the Bronxville, Detroit, and Atlantic City Conferences; and Thomas, William I. and Dorothy Swaine, *The Child in America*, Chap. 8, New York: A. A. Knopf, 1928.

of working out more personal problems than can be effectively handled in group discussion. On the content-material side, study groups are supplemented each year by a program of lectures and conferences by specialists in various aspects of child development and education; by special fact-finding committees which make regular reports on children's literature, books for parents, schools and camps, music and educational research; and by a library and a monthly magazine.

The Association also conducts institutes and training courses for leaders and parent education workers, and in coöperation with Teachers College, Columbia University, a course for graduate students preparing for professional careers in parent education.

The National Congress of Mothers and Parent-Teacher Associations, because of increasing interest on the part of fathers, changed its name in 1924 to the National Congress of Parents and Teachers. Except for supplying organization plans and study outline pamphlets for preschool study circles of mothers, its work has been civic, political, and reformist. The need for an intensive, professionally led parent education program, however, has been increasingly felt by its officers. Beginning in September 1930, Dr. Ada Hart Arlitt, on leave of absence from her parent education work at the University of Cincinnati, will work with the staff of the National Congress in developing its parent education program.

The American Association of University Women launched an adult education program for its 35,000 members in 1923. This consisted largely in promoting the study of preschool, elementary, and adolescent education, "to give its members a more scientific understanding of children from birth through adolescence, and

to help improve methods of dealing with children in homes and in schools." The second year saw 124 child study groups in operation among university women, and in 1929 there were more than five hundred such groups scattered from Maine to California. Some are self led, but most use local educators as chairman or discussion leaders. The educational office of the American Association of University Women prepares and distributes guidance material and informational reprints, and conducts loan libraries and exhibits. It has also undertaken studies of literature for parents and of children's clothing and toys.

So persuasive has been the argument that home economics is giving disproportionate consideration to the material side of home life and not enough attention to the personality development of the children for whom the home exists, that home economics teachers are making increasingly prominent their courses in child care and guidance and in family relationships.

This development has been hastened by the work of the American Home Economics Association, which inaugurated in 1926 a four-year child development and parent education program for teachers offering preparental and parental education courses, and for homemakers interested in "professional improvement" in homemaking. Publications of this Association increasingly feature parent education material, and home economics departments who desire it are given assistance in the development of parent education programs. Several studies of home economics education and of parent education methods are being made.

During this decade, the education of those closest to children during their impressionable and growing years has been looked upon with increasing favor by many national organizations

whose major interests are health, social hygiene, mental hygiene, or community recreation. The advice of the National Council of Parent Education is constantly sought by such agencies regarding possible parent education activities.

In the spring of 1930, the American Social Hygiene Association, after careful deliberation, organized a Division of Family Relations, whose aim should be "to minimize the number of broken homes; to increase intelligent application of knowledge to practical family life," and whose present plans include coöperation with the parent education activities of several other organizations. It would be disastrous to parent education, however, if its name should come to stand for the propagation of new knowledge and beliefs, however excellent in themselves, rather than for an experimental educational process.

OFFICIAL STATE PROGRAMS

State programs in parent education under governmental auspices are also products of the last decade. With the help of Federal appropriations administered by the State Department of Vocational Education, "mothercraft classes" were started in Oklahoma in 1921. Nebraska followed suit the next year with "mother training courses" in the schools of Omaha. These were extended to other cities in 1923 and to smaller towns in 1927, and the following year, classes were offered to both fathers and mothers. The use of Smith-Hughes funds augmented by state and local money, the supplementing of home economics teachers with psychologists and others, and the conduct of groups in public schools, have stimulated several other states to work out similar programs.

California organized, in 1926, a Bureau of Child Study and Parent

Education in the Division of Adult Education of the State Department of Education, with the purpose

of presenting to parents in non-technical language the opinions of recognized experts in the field of child study, and of affording parents opportunity for directed practice in the analysis of common problems and in the application of generalized information to concrete home situations.

Study groups are conducted each year in connection with existing organizations—public schools, parent-teacher associations, clubs, churches, and so forth—each under the chairmanship of a lay leader who holds special teaching credentials from one of the training courses conducted by the Bureau's specialists.

A somewhat similar plan exists in Ohio, where, in 1929, the Head of the Division of Adult Education at Ohio State University became the Head of the Division of Parent Education of the State Department of Education. The aim of this integrated program is the organization and the supervision of child study groups for parents, the training of leaders for these groups, and the development of study materials, demonstration centers, and exhibits. It also attempts to train lay leaders. Since January, 1930, a monthly bulletin has been published.

In 1928, New York's State Department of Education organized a Division of Child Development and Parent Education to coördinate the work of institutions and agencies interested in those fields throughout the state, to help set up common projects, and to help develop new centers for the demonstration of parent education needs and methods. By the end of the first year, this Division had helped to organize in different parts of the state several leadership training courses for parent education workers, and was trying to secure professional parent

education workers for two city school systems.

CHILD DEVELOPMENT RESEARCH CENTERS

Child development research is carried on in centers at Iowa State University, University of Minnesota, University of California, University of Toronto, McGill University, Teachers College Columbia University, at the Washington Child Research Center, the Yale Psycho-Clinic, and in the Merrill-Palmer School at Detroit. Programs are threefold: (1) research in some aspect of child development; (2) the training of workers; and (3) the dissemination to parents of knowledge about children.

It was in 1917 that the Iowa State Assembly, inspired by a group of far-sighted club women, passed a bill which provided for the establishment and the upkeep of the Iowa Child Welfare Research Station as an integral part of the State University. Its purpose was to be "the investigation of the best scientific methods of conserving and developing the normal child, the dissemination of the information acquired by such investigation, and the training of students for work in such fields." Studies of the physical, mental, and emotional development of young children were immediately undertaken, and the work of Bird Baldwin soon became widely known.

In 1924, increased state appropriations and grants from private agencies made possible the organization of a parent education division "to make available to the people of the state the best thought about children, including the findings of the research station, and to induce parents to look at their children objectively as well as subjectively." Under its direction a few demonstration child study groups meet

regularly in strategic centers of the state. Through its efforts, an Iowa State Council of Child Study and Parent Education was organized in 1927, "to bring together all agencies in the state interested in parent education, for the discussion of methods and for the overcoming of duplication." Conferences of member agencies are held from time to time, and each spring a week's parent education institute is conducted on the State University campus. Since the spring of 1930, a monthly bulletin has been published.

The Institute of Child Welfare at the University of California is unique in that its director is also Chief of the Bureau of Child Study and Parent Education of the State Department of Education. The Institute has begun a series of carefully worked out studies of parent education methods, which in the next few years should yield valuable results. The St. George's School for Child Study at Toronto is also making studies of group methods. The Institute of Child Welfare Research at Teachers College Columbia, has worked out, with the help of other departments in the University and of the Child Study Association of America, the most complete course for the training of parent education workers yet developed.

The Merrill-Palmer School of Home-making since 1924, and the Yale Psycho-Clinic since 1926, have carried on parent education primarily by individual instruction. Gradually, the former also developed group work both for the parents of its nursery school children and for other groups in the city; the latter uses individual conference exclusively.

COLLEGE AND UNIVERSITY EXTENSION COURSES

At the close of the decade, twenty-

seven land grant colleges and state universities were offering units of instruction in child care and development through home economics extension courses. New York State College of Home Economics at Cornell and the Iowa State College of Agriculture and Mechanics developed their courses in 1925 parallel to residence courses, which included observation in the nursery school and the study of family situations known to the consultation centers. Georgia State College of Agriculture and Mechanical Arts and the University of Illinois have also had extension programs under way since 1925, and Ohio State University since 1926. Twenty-two other courses have been organized in the three years ending with 1929. Most of these universities have full-time workers in the field, and several of them conduct seasonal institutes at central places in addition to local child study classes.

The Vassar College Department of Euthenics has conducted institutes of euthenics every summer since 1926, primarily to pass on to Vassar alumnae who are mothers, the findings of scientific research in education, human behavior, child development, and the techniques of homemaking. Facilities are provided for the residence of every member of the family during the institute month. Nowhere in the country is there a more inclusive program of parent education, although it serves only a limited number for a short period of time. Applications, to be accepted, must be made many months in advance.

In response to several requests, the School of Applied Social Science of Western Reserve University, in the spring of 1925, opened to parents, visiting teachers, nurses, and social workers an extension course on the development of young children. The following year a course on the develop-

ment of the school child was added, and in 1927 this work was moved to Cleveland College, the adult education division of Western Reserve University, to form a division of parent education, which each year offers an increasing variety of courses to both fathers and mothers. The Child Training Committee affiliated with the Community Chest conducts child study groups in various sections of the city, forming in relation to the University a kind of extension service.

The School of Household Administration of the University of Cincinnati, in coöperation with the Mother Training Center Association of the city, conducts a series of child study groups for mothers in several sections of the city, two of which specifically train leaders.

In ten other cities, university professors of psychology, biology, and education are known to be quite unofficially conducting lecture courses and study groups for parents. Some of these courses are organized by parent-teacher associations, some by clubs, and a few by churches. Attendance ranges from several hundred at lectures to fifteen or twenty at group discussions. From six to twenty meetings comprise a course, depending on the lecturer and the interest of attendants. The most significant aspect of this informal work is that it is organized, financed, and carried on by parents who want it. There is every reason to believe from inquiries and comments received that similar courses can be found in many urban centers of the country.

LOCAL VOLUNTARY ORGANIZATIONS

In 1919, the Elizabeth McCormick Memorial Fund in Chicago, which devotes its resources to improving the conditions of child life, began weekly classes for parents to supplement the

individual instruction of the physicians and the health workers in its nutrition section. This group work still continues, but most of the Fund's parent education is carried on through individual contacts and conferences.

In connection with a mobile child guidance clinic which had begun its work three years earlier, the Monmouth County (New Jersey) Organization for Social Service developed, in 1924, a program of parent education. Groups were held in convenient places throughout the county, and a central group for training leaders met at the county seat. During 1927-1928, the professional workers tried to develop lay leaders who would carry on the work without professional supervision; but after their departure, study groups disintegrated. Their aim, the indefinite continuance of the work under trained lay leadership, has not been realized.

In the spring of 1925, a group of educators, social service workers, and parents organized Parents' Council of Philadelphia "to arouse the city to the importance of parent education and to make available to interested parents opportunities for directed study and discussion." Under professional leadership, the Council set out in 1926 to develop a city-wide parent education program. Study groups were organized in all parts of the city in clubs, schools, churches, social agencies, and private homes. Through these groups, a series of public lectures, and the distribution of mimeographed material, the Council's program became widely known.

An evaluation of the results of this type of program in 1928 convinced the staff and the Board of Directors that the most useful service could be rendered, not by endeavoring to furnish leadership for parent education throughout the whole city, but by conducting groups within organizations which

might in the future carry on parent education as an integral part of their programs, by experimenting with methods of conducting parents' groups, and by training leaders. The Council now conceives of itself as carrying out these three functions.

In 1929-1930, twenty-one hundred members were enrolled, and a staff of five professional leaders conducted forty-six study groups, five of which were leader training classes, and three fourths of which met in public schools and social service agencies. Groups were supplemented by loan libraries, lectures, all-day institutes, and two small publications. Careful records of proceedings were kept and are now being used as data for a comprehensive study of group method in parent education.

At the request of the Cleveland Board of Education, a privately supported worker, loaned by the School of Education of Western Reserve University during the school years 1926-1927 and 1927-1928, conducted an experimental parent education program in a public school. It was hoped to discover whether Cleveland parents really wished to have provision made by the public schools for assisting them in improving their methods of dealing with their children. The second year, local lay leaders, specially trained in summer courses, conducted six groups. This experiment has not been considered very productive and nothing has yet come of it.

Through the winter of 1929-1930, the United Parents' Association of New York City, with the assistance of the State Department of Child Development and Parent Education and of the Child Study Association, conducted bi-weekly a training course for lay leaders, who thereupon met in alternate weeks their own groups of public school parents.

THE NATIONAL COUNCIL

Upon invitation of the Child Study Association of America, and through the generosity of the Laura Spelman Rockefeller Memorial, thirteen organizations known to be interested in the education of parents were invited in October, 1925 to send representatives to a conference at Bronxville, near New York City. Six days were given to detailed descriptions of the work of the agencies represented and to a discussion of difficulties and techniques. Before adjourning, this conference decided to organize a National Council of parent education which should: "(1) assemble and make available research material for workers in the field; (2) serve as a clearing house for research; (3) suggest qualifications and guide the training of workers; and (4) collect and disseminate educational materials other than research." Edna Noble White, Director of the Merrill-Palmer School, was chosen chairman.

During the next year, a survey was made of all agencies known to be doing parent education work in the United States, and workers representing these agencies were invited to meet in October, 1926 at the Merrill-Palmer School in Detroit. Discussion sessions dealt with problems of subject matter, teaching method, leadership training, and relationships with nursery schools and social service and health agencies. The business section reelected Edna Noble White chairman and chose several other officers.

The next gathering, a business conference which met in New York in January, 1928, chose a governing board, considered at length the formulation of a definite program of activities, and took steps to include as members of the National Council as many organizations as were conducting active parent education programs. In

April, 1928, a grant was made by the Laura Spelman Rockefeller Memorial. The following June, headquarters were opened at 41 East 42nd Street, with Flora M. Thurston as Executive Secretary and Dr. Eduard C. Lindeman as Consulting Director.

Dr. Lindeman brought perspective and flexibility to a movement hitherto more narrowly conceived. His conviction that parent education represents the most strategic educational venture of modern life is tempered by an attitude of "lively, searching, and hesitant exploration." He warns, "America is the most favorable of environments for social movements hurriedly conceived, rapidly inflated, speedily interred." Under his leadership, the first National Conference of Parent Education Workers in Atlantic City, November, 1928, asked questions, sought a clearer definition of aims, and candidly explored problems.

Looking back over the first two years of the National Council, in January, 1930 Dr. Lindeman summarized its activities as "functional coördination, critical attention to standards, and guidance in research and education." More specifically, the staff served as conference leaders and advisers in coördinating parent education effort in various cities and states where their services were requested. It served also as a committee of selection for fellows and scholars designated for future leadership in parent education; and it helped agencies to select professional workers. Personal assistance on research projects was given to fellows and other parent education workers; several local conferences were conducted or assisted, and materials were prepared for publication.

DANGERS AND ASSETS

Parent education wears all the earmarks of a new and popular movement.

Child study groups spring up overnight, and are soon followed by supervisory and administrative agencies. Everywhere parents want help, yet they are not always sure what they want. There is a dearth of leaders, but no accepted qualifications by which to guide the selection of recruits. Energies are spent getting programs under way, but no one knows which are the more effective. The idea has become so popular that organizations in related fields want "child study" or "parent education" attached to some phase of their work. Leaders coming into it from other professions show a tendency to announce high and inclusive aims and to overstate their achievements, while their work is colored by former professional habits and is often quite ineffective as parent education.

If this seems perilously near chaos, consider some of the movement's indisputable assets. Only applicant agencies whose work is up to carefully stated standards are accepted as members of the National Council. The prerogatives of members vary with the amount and the quality of their work, and every two years all member agencies are reclassified on the basis of reports submitted. The educational preparation and the professional standing of parent education leaders is high; all have had some graduate training and many possess doctors' degrees. Again, methods of work have been kept flexible and all sorts of promising procedures have been tried out, on the theory that a wide range of experimentation is likely to discover better methods in the end. Finally, in most communities, parent education activities are carried on in closest relations with the work of other educational and welfare agencies. Insistence on its unique aims and methods, coupled with administrative coöperation, or

even integration if the situation requires it, is winning wholesome respect for parent education.

THE FUTURE

The future of this toddling movement would seem to depend: first, upon whether or not it can evolve an educational procedure that will be scientifically valid, educationally effective, and at the same time releasing and satisfying to participating parents; and second, upon the degree to which the parent education activities of private experimental agencies can be taken over by public educational and welfare agencies without becoming stereotyped and ineffective.

Contrary to the assumptions of several enthusiastic parent educators, no answer that will bear scrutiny has yet been given to the inescapable questions: What is parent education accomplishing? What differences in the actual handling of children are being made by the education of their parents? What differences are being produced in the daily functioning, the adjustment, and the happiness of parents? This is the movement's central problem. Such questions as how to help parents to become aware of their problems, what subject matter to use and how to introduce it, what use if any to make of specialists in related fields, from what fields to recruit and how to train leaders, whether or not to use lay leaders, how to adjust pre-parent training and parent education, and many similar matters all relate to this one problem of method: What types of procedure are truly educational, and how can we test them to make sure?

That many parents, both through adult education opportunities in general and through specific parent education activities, do develop better adjustments to vocation, to the demands

of citizenship, and to the opportunities of leisure and culture, is an undoubted fact. It is probably true also that parents better adjusted in these respects tend to be happier, and so to nurture better adjusted and happier children. This is desirable, but it is not the primary purpose of parent education. A definite relationship between the education of parents in child study groups and their functioning in relations with their children still remains to be proven.

Historically, it has been assumed that education took place when those who knew told those who did not know. Knowledge about human behavior has been passed on since the dawn of history in the form of general principles, which hearers were supposed to apply to concrete situations. The application of such new knowledge in human relationships is patently difficult, and so telling has been interlarded with inspiration and exhortation. The earliest parent education of which we know followed this pattern.

Educators who scrutinized their work for results, however, soon concluded that such efforts were unsatisfactory. They found they were often telling unwanted or irrelevant facts. Some hearers did not stay inspired. Others stayed inspired, but somehow expressed it more in words than in treatment of their children.

With the philosopher Herbart as their guide, many parent educators began to vitalize knowledge by putting it into stories, case studies, exhibits, demonstrations; to get it accepted through developing intimate points of contact between teacher and taught; and to get it applied by supplying illustrations and rules to be followed. Leaders working from this point of view have described their classes as "making the available knowledge about

children interesting and usable," or "giving parents an understanding of how learning and growth takes place, with rules to guide them in applying this knowledge to concrete situations."

Believing that observation of the correct handling of children is central in a learning experience, some workers have required parents to watch experienced nursery school teachers with children, and discuss reasons for the treatment they have observed. Others, pinning their faith on the half truth that learning comes by doing, give parents home projects ("to get Bobby to take his cod-liver oil without fussing," "to cure myself of impatient retorts," "to get Mary to stop telling lies," and so forth) upon the progress of which they report to the group. Still others protest that in spite of their intellectual understanding of how learning takes place, mothers, when up against even simple emotional situations, actually handle them as if they had "learned" nothing.

One experienced leader discusses why parents feel and act as they do, in connection with each concrete child management problem presented in the group. Another leader in the same organization avoids a direct discussion of parental emotion, but tries instead to secure wiser handling of everyday situations on the part of parents, who she hopes remain unconscious of their own emotional needs or of how they are being expressed.

How much actual education is taking place in these various procedures? No one knows; but in the spring of 1930, nine parent education agencies reported undertaking studies of methods and results. This is a good omen. Such studies are needed. Upon their thoroughness will depend the development of effective methods and the future usefulness of parent education.

GUIDING THE TRANSITION

Like most American movements, parent education received its early impetus from individuals and private voluntary agencies. Democracy, however, demands that education proven valuable to some must be offered at public expense to all. Like home economics, like physical education, like child welfare itself, parent education seems destined to become, in part at least, a public opportunity and a public responsibility. Before that occurs, however, acceptable educational methods must be worked out; likewise, personnel qualifications for professional workers. The services of parent education must be proven indispensable to the democracy, and its aims and procedures must become widely known. Until these developments take place, parent education is still un-

prepared for the process of devolution from private to public hands.

Under the lash of popular demand, however, city, county, and state departments of education and welfare are already adding to their staffs parent education specialists. There is imminent danger that parent education will accept insufficiently tested methods, for popular demand must be immediately quieted with something; that it will become the plaything of specialists in behavior or in health, for overemphasis on an aspect of the whole seems to be peculiarly easy in America; and that it will lose its present problem-conscious and experimental outlook. To guide this devolution in such a way that values already won are held fast, at the same time that teaching and administrative procedures are improved, will require statesmanship of high caliber.

Recent Gains in Family Protection as Measures of Child Welfare

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WRITERS in the press and speakers on the platform have taken to complaining about the family with the same blithe nonchalance with which people ordinarily complain about the weather. By the same token, they seem to imply that nothing can possibly be done in regard to the one any more than the other. We listen with interest, but we cannot shape policies on these generalizations. We know that no form of the state is final, but the form we have today acts as a finality until change occurs or the established order is overthrown. Out of this chaos, fancied or real, it is comforting to know that in the last decade forces of a constructive nature have really been at work in the interest of family protection. It is the purpose of this paper to discuss, from the standpoint of case work, some of the gains which have been made and which have vital import for child welfare.

While we are still far from our goal in preparing our boys and girls for the responsibilities of parenthood, there has been a growing consciousness in the past decade of the need of parental education. This is evidenced by the growing numbers who are enrolling in classes and organizing in groups for the purpose of studying the parent-child relationship. This movement has gained momentum through its affiliation with other movements in the field of adult education.

There will probably be little disagreement when I say that ordinarily the child thrives best when its family is living under those wholesome social,

economic, and spiritual conditions which we regard as the backbone of all decent living. Under such conditions, children are absorbed in the life stream of the community. They learn through imitation of their elders, through the associations of family life. They are not shunted off into public playgrounds or into day nurseries or institutions, however fine these may be from the standpoint of physical surroundings or even of trained personnel. If we can think of our present practice only in terms of *compromise*, and of compromise at the point of least effectiveness, when the family has already broken down through sickness, poverty, or any other social disaster, we shall have to reconstruct our thinking in regard to many of the substitutes we are now offering for family life and the means we are taking for family protection.

GAINS IN HEALTH PROTECTION

Certainly, the family has gained much along health lines during the last decade.

The United States Public Health Service estimates that there are about 130,000,000 cases of disabling illness in the United States each year, and if non-disabling illnesses should be added, the figure would be more than doubled. What this may mean is indicated by the conclusion that the 36,000,000 wage earners in the United States lose at least 250,000,000 workdays a year; and that 24,000,000 school children, 170,000,000 days each school year. These figures take into account only one half of the total population.¹

¹"The Extent of Illness in the United States," *Jour. of American Med. Assoc.*, Dec. 7, 1929.

The war, with medical attention focused upon men who needed to be fit soldiers, awakened us to the ills from which man is suffering and to the tremendous gain that can easily be achieved through prevention. The public health movement has made notable progress during the past decade. Much remains to be accomplished, but a real beginning has been made to awaken physicians and laymen to the benefit of periodic physical examinations. While only a small fraction of the population has thus far been reached, one can anticipate the gains to family life of conserving the health of fathers, mothers, and children.

The relation between maternal health and infant mortality, and the increasing areas of birth and death registration will be discussed in detail elsewhere. Their contribution to childhood in the way of better family protection can hardly be overestimated.

Perhaps nowhere has there been a more spectacular gain for family life than in the field of tuberculosis. When one considers that there are 700,000 persons in the United States suffering from tuberculosis, one can realize its devastating effect on family life.

For 1910 the death rates in the registration states of the United States have dropped to 164.7 or a decline of 15.6 per cent in the ten-year period. In 1920, ten years after, the rate in the same group of states was only 112 per 100,000 living. In the second decade, the rate fell 32 per cent or a little more than twice as fast as in the first decade. By 1926, the figure had fallen to 84.5 per 100,000 in the same states, which is considerably less than half the figure for 1900. The most dramatic fact in the whole situation today is that the rates of mortality and morbidity are dropping at an ever faster rate from decade to decade. There is no evidence of a diminishing rate of decline. So striking a fact is this declining tendency that there are sober-minded men who talk in terms of

practical elimination of tuberculosis as an important cause of death in the next ten or fifteen years.²

Cancer is still a dreaded word in every household. While much has been done in research, the secret of eradication has not yet been found. Leaders in this field, such as Dr. Joseph Colt Bloodgood, testify that there has been a tremendous gain through education. Many patients are consulting physicians at a much earlier stage and before it is too late.

Space forbids noting what has been accomplished in regard to many other diseases, accomplishments that mean not only the saving of life and happiness but also economic gain. Many mothers are today caring for their own children because of our progress in maternal health. To a great group of diabetics new life has been brought through the use of insulin. Many men are now occupationally useful who before its use would have died or at least would have been seriously incapacitated. Perhaps an even greater contribution has been made to child health through the use of insulin. Through progress in sanitation and the daily check on water and milk, typhoid has been reduced in cities. Diphtheria has come under control through the use of toxin antitoxin. Scarlet fever has been reduced, and this in turn has meant fewer cardiacs under thirty years of age. In the field of orthopedics, gland and bone tuberculosis have been reduced.

—MOTHERS' PENSION MOVEMENT

Many communities now realize that it is not only humanitarian but it is sound economic policy to pay mothers to keep their own children in their natural social group. The Mothers'

² Dublin, Louis I., "The Conquest of Tuberculosis," *Harpers*, April, 1929.

Pension movement has made a strong appeal to the hearts of mankind and many measures of this type have been passed in this decade and the one preceding. Much of the legislation enacted in the emotional fervor following the first White House Conference has been revised to meet more specifically the social needs of the communities for which it was designed. Gains have been made, especially in the cities, where standards of all social work are rapidly improving. In rural sections and especially in the South, where the need is so great, much remains to be done for the development of Mothers' Pensions.

The general trend is toward more flexible laws, to assist in keeping all children in their own homes rather than to take care of only those situations where the father is dead or incapacitated. Many difficulties, however, are encountered in administration. Funds are inadequately provided for the purpose, communities do not realize the need for trained workers, and the chief problem is thought to be merely that of getting a check to a mother at a proper time. Often the law specifies a maximum amount that can be granted a family, which in many instances is far from adequate. The law also often states the maximum that the mother should be allowed to work; but in many communities, time "may work" has come to mean time "must work."

Work that is designed as a part of treatment, as a means of social contact, or as a further stimulus to self-dependence, may have advantages from the standpoint of the family as a whole. But work that sends the mother out for about one half of each week to supplement inadequate public funds may defeat the whole intent of the law. Mothers' Pension legislation dates back only to 1911, so that within a brief period this idea has become gener-

ally accepted. As social work standards are raised and the public becomes more alert to its social problems, we may perhaps hope for more individual treatment, a better type of service, and budgets figured on the basis of a family's needs with a consciousness of values in that community.

Likewise, the day nursery sees its opportunity to contribute to a better family life rather than merely to provide safe physical care for the child while the mother is at work. Instead of caring for the youngest child or the troublesome child, the family is again seen as the unit, with the nursery care as one form of treatment to assist in solving the problems of the family. Perhaps the crux of the day nursery question is in deciding what mothers should work, and the amount of work they are capable of doing while at the same time carrying the responsibility of the home. It is no easy task to arise early in the morning, get sleepy youngsters to the nursery, do a day's work, and then call for the children at the end of the day when the tasks of the home again present themselves. Probably many nurseries need to think more clearly whether they are really contributing to family welfare, or whether the cost of maintaining the children in the nursery should be given to the mothers to enable them to remain in their own homes.

A few nurseries are making the experiment of using foster homes rather than a central plant. This means a flexible program of providing care near the mother's residence and perhaps with her own nationality group. While we often refer to nursery care for the children of widows, it is also used in some motherless families. It is probably harder for a man to carry out such a plan, but some have done it successfully and prefer thus to keep their families together.

Another movement which has made progress in the last few years is that of the visiting housekeeper. Several cities are experimenting with a staff of selected women, usually under the direction of a social worker who is also a home economist. These women give daily service in homes where the mother has been removed because of illness or death. It is considered far less expensive than providing elsewhere for a large group of children. It means also that family solidarity can be maintained and that school contacts need not be interrupted.

HIGHER STANDARDS OF SOCIAL WORK

For the families who cannot solve their own difficulties, *i.e.*, the group reached by social service work, probably we should count as a gain the developing professional standards of the social worker. To assist in solving the intricate problems of humanity we need the best in personnel, equipped in the art of human relations and with all of the technique that the profession has thus far developed. The American Association of Social Workers is conscious of this need, and its growing membership indicates progress during this decade. The schools of social work, too, are extending their usefulness and enriching their curricula, better fitting the worker to give service to families.

At a recent conference of social work, several speakers suggested that we were fairly aware of the failures in family life and that perhaps we needed to pay more attention to successful relationships. What does make for success and solidarity in the family? Some of us look with envy at our co-workers in the medical school, who can attack their problems in a controlled environment, putting a few germs into one test tube and others into another, then patiently watching for results. In

the field of human maladjustments, the process of study is far more complicated. We have done too little in research—we have dealt in generalities. Perhaps, then, we may look toward the future with hope because at the close of this decade we have the Institute of Human Relations at Yale, and the Institute of Law at Johns Hopkins. We might also mention the White House Conference soon to be called by President Hoover. May we hope that from these and from other professional groups, the next decade will give us more factual material on family relationships and that on this we can build for the future.

INDUSTRIAL CONDITIONS IMPROVED

Turning to the field of industry, we find that some progress has been made since the war.

The work a man does, the conditions under which his work is done, and the wages he receives for doing it determine in great measure for him and those dependent upon him the circumstances of his life, the house he lives in, the clothes he wears, the food he eats and his recreation. A man's occupation is therefore probably the most potent single factor in deciding the state of his health and fixing the span of his life.³

In other words, work must be stimulating, satisfying, and productive. The satisfaction and the feeling of security derived from work to which the individual is well adjusted permeates all of his other relationships.

What gains that affect family life have we made with the great group of wage earners? Accepting health as a prime requisite for family life, we are constantly impressed with the subtle influences that have effected such movements as the Workmen's Compensation Acts. Dr. Dublin states that we do not know even approxi-

³Dublin, Louis I., "Job and Life Span," *Harpers*, Jan., 1930.

mately the extent of industrial poisoning in the United States, because the symptoms of occupational diseases are frequently so obscure that general practitioners are often unable to detect them. Neither have we adequate statistics on the cases that are diagnosed. Dr. Alice Hamilton comments:

As I look back over these nineteen years, especially the last ten, the changes which appear are very great and almost all are to the good. Some of the dangers in industry grow worse, speeding up, monotony, increase in dangerous dust in such work as sand blasting and granite cutting, and the introduction of many new poisons, yet the improvements over-balance them. The twelve-hour day and seven-day week are almost things of the past. Fatigue from monotony and speeding is recognized as an evil and there are many efforts to lessen it.⁴

Dr. Emery R. Hayhurst,⁵ of the Ohio Department of Health, recommends that all occupational diseases should be compensated. Many laws mention specific diseases, and if the employee falls victim to one not on the list he is without redress.

Perhaps the encouraging side of the picture is the awakened consciousness that employers are responsible for working conditions. Organizations like the National Safety Council, made up of industrialists and insurance companies, have perhaps stimulated a feeling of responsibility for health on the part of the employer. Industry is also realizing that a large turnover is wasteful. Many plants now have full-time physicians responsible for the health of employees, conscious of working conditions, of the need for periodic examinations, and of clinics to give advice and aid.

One can only estimate what acci-

⁴ "Nineteen Years in the Poisonous Trades," *Harpers*, Oct., 1929.

⁵ *American Labor Legislation Review*, Vol. 19, No. 3, Sept., 1929.

dents do to home life in discouragement, suffering, and deprivation. Workmen's Compensation has brought much relief, not only in assisting the person injured but also in stimulating prevention. While our laws are not ideal, and while they are diversified, the fundamental idea is to place the cost of industrial accident not on the individual involved but upon the industry and eventually upon the consumer. The process of compensation is for prompt and automatic relief and for the restoration of the individual to industry as soon as possible. Recourse to the courts should not be necessary. During this decade, additional compensation legislation was passed: in 1919, by North Dakota, Tennessee, the District of Columbia, and Alabama; in 1920, by Georgia; in 1925, by Missouri (ratified by popular vote in 1926); and in 1929, by North Carolina. This leaves at the present time only four states without Workmen's Compensation laws—Arkansas, Mississippi, South Carolina, and Florida.

A study of the legislation of the United States and Canada as of July 1, 1926, United States Department of Labor, Bureau of Labor Statistics, shows that many of the laws have been amended during this decade. Gains have been made in favor of the individual injured and in methods of administration. Downey graphically summarizes our shortcomings.

The American compensation system does not yet include all of the United States nor does it cover railway or marine transportation, agriculture or domestic service; the scale of benefits is grossly inadequate, needlessly variable from state to state and contains many unintelligent limitations and exclusions which work a hardship out of all proportion to the monetary savings; the administration of the laws permits much avoidable litigation and much unnecessary delay in the payment of claims; the prevalent form of insurance gives no sufficient

security for future payments and public supervision of private insurers has failed to obtain either appropriate risk classes or reasonable rates. By comparison with any acceptable standard for the indemnity of work injuries our compensation laws are poor indeed. Measured, however, by the situation which obtained ten years ago, the advance is very great. The law of negligence and all its works has been swept into the discard and in its place has emerged the principle that industry shall bear the cost of industrial injuries. That the new principle is still very imperfectly realized in practice is less significant than its universal acceptance in theory; no far-reaching reform was ever carried out until its justice and expediency had taken hold upon the general conviction. Adequate compensation benefits will be attained as fast as public opinion is educated to the necessity thereof.⁶

CHILD LABOR

The subject of accidents in industry should not be closed without mentioning those which occur to children. Here again the statistics are inadequate. *Child Labor Facts 1930* furnishes figures regarding accidents to children, which ought to challenge the attention of all thoughtful people.

The child is more susceptible to industrial accidents than the adult engaged in similar work. The awkwardness of children of adolescent age, the natural irresponsibility, carelessness and curiosity of youth, the unaccustomed strain accompanying the transition from an easy five hour school day to the confining work for eight hours a day or longer in a factory—all tend to subject the worker in his teens to a greater accident hazard than exists for mature workers.

A report published in 1927 shows that in a single year (1923) 1,803 minors under eighteen were injured in the State of Illinois. A similar report for Pennsylvania shows 2,852 minors under eighteen injured in 1924.⁷

⁶ Downey, E. H., *Workmen's Compensation*.

⁷ *Child Labor Facts 1930*, National Child Labor Committee.

While Workmen's Compensation laws have increased in scope and efficacy, the idea of other forms of social insurance for unemployment and old age security has not yet been universally accepted. No one can predict what the next decade may contribute along these lines, particularly if well-trained social workers, becoming increasingly aware of their status as members of a profession, provide leadership in social thinking in communities where they are accepted and recognized.

No discussion of gains in family protection would be complete without mentioning the steady fight against child labor made especially by the National Child Labor Committee. The 1920 census gave 1,060,858 children ten to fifteen years of age as engaged in gainful occupations. This number was approximately one twelfth of the total number of children of that age in the entire country. The number of child workers ten to twelve years of age was 378,063. These do not include those merely helping parents at chores or doing irregular work on the home farms. The South, because of agriculture, still leads in child labor, with the New England textile states still employing the greatest number in manufacturing. The picture of what this does to the child at present and what it will mean to future families is significant. The 1920 census showed that 1,400,000 children between the ages of seven and thirteen were not attending school; also, that there were in the United States five million illiterates, or six per cent of our population ten years of age and over.

Today every state has some kind of fourteen year age limit for entering industry, valid at least during school hours. A few go up to fifteen or sixteen years. All states regulate the hours of work. The large majority have an eight hour day for children under sixteen, with a few states

above and a few below this standard. Restriction of night work for children is the general practice, with six or seven P. M. as a closing hour in two thirds of the states. Education and health requirements have increased by leaps and bounds, both in their number and nature. Thirty-one states now require the completion of at least the sixth grade before a child of fourteen can leave school for work. In twenty-seven states the requirement is that of an elementary course of the public schools, though with exceptions in several states. Twenty-six states require a physician's examination and certificate of physical fitness before a child of fourteen can go to work; and eight states, while not making such a certificate mandatory, empower the officer using work permits to require it when he sees fit.⁸

Progress has been made to safeguard children, but much remains to be done. Here again the problem is one of an awakened public conscience concerned with the education, the health, and the general welfare of the children. Perhaps the school holds the key in its ability to interest the child, to meet the particular child's needs, to provide visiting teachers, to work with parents when necessary, and to give adequate direction in vocational guidance.

WOMEN IN INDUSTRY

Closely associated with the problem of children is that of women in industry. On January 1, 1929,

only four states in the United States, Alabama, Florida, Iowa and West Virginia, had no law of any sort regulating the hours of work for women. Indiana has but one limitation of hours, that prohibiting the employment of women at night in manufacturing. All the other states either have definitely forbidden the employment of women for more than a certain number of hours a day or week, or they have penalized all employment beyond certain specific hours by providing that it must be paid for

at an increased rate. The shortest period to which hours of work are limited is eight hours a day in ten states: Arizona, California, Colorado, Kansas, Montana, Nevada, New Mexico, New York, Utah, Washington, and the District of Columbia. Other states have from eight and one-half to twelve hour laws. In addition to laws limiting daily hours in specified industries or occupations, five states, Connecticut, Maine, Minnesota, New York, Oregon, have legislation supplementing the laws regulating both daily and weekly hours, and limiting only the weekly hours for certain industries and occupations. For these weekly limits Connecticut and Minnesota specify 58 hours; Maine and New York 54 hours; Oregon 56 hours in one occupation and 48 hours in another. In all, forty-three states have laws that limit the number of hours that a woman may work. In many states the number of industries or occupations coming under the law is so small as to affect only a small proportion of all working women in the state.

A comparison of the laws will show that generally the states that have the shortest working day and week are also the states that bring the greatest number of industries or occupations under the provision of the law.⁹

Only eighteen states have provided that a woman may have a day of rest or one shorter workday, or time for meals or rest periods. Sixteen states prohibit night work for women in certain industries or occupations. A study of the laws tabulated by the Women's Bureau, United States Department of Labor, in the pamphlet just quoted shows that the states during this decade have been mindful of the need of protecting the mothers and the future mothers of the country. While most of the original legislation came at an earlier period, there are only a few states that have not added further safeguards since the war.

⁸ *Twenty-fifth Anniversary of the National Child Labor Committee, 1929.*

⁹ "Chronological Development of Labor Legislation for Women in the United States," *Bulletin of the Women's Bureau*, No. 66.

UNEMPLOYMENT

While gains have been made in social legislation to protect the family, little progress has been made in what is perhaps the greatest problem of all—that of unemployment. President Hoover's Committee on Recent Economic Changes estimated that there were, on an average, 2,300,000 unemployed persons in this country even during the eight years of prosperity, and broken employment brings that total to an equivalent of 3,000,000. Congress has authorized a census of unemployment in 1930. Perhaps sometime in the not too distant future we may hope for a national system of employment bureaus, so that we may have the assurance of accurate and accessible figures.

What this unemployment means in hopeless despair to many who are eager to work, what it means in suffering to the entire family, can only be estimated. We are indebted to psychiatry for checking us in our use of such terms as "lazy" and "irresponsible."

An unwholesome state of mind comes to those who may be perfectly willing but unable to find work. Men can lose not only the habit of work but the *attitude* towards work. The moral disintegration that sometimes follows has far-reaching effects on many of our other problems affecting the family. President Hoover wisely stated: "No waste is greater than unemployment; no suffering is keener and more fraught with despair than that due to inability by those who wish to work to get jobs."

In this present period of terrific suffering, one is very humble in even mentioning any gains in attacking the problem of unemployment. Perhaps a few more committees have been appointed and a few more people are talking about the need for getting the facts, and a few more people realize the

need for better vocational guidance in our schools and more nearly adequate employment bureaus and the need for some one to assist the man who is out of work in a systematic search to find it. As yet, there is little evidence of any farsighted constructive planning. We need real statesmanship here, because our jobs have made cowards of many of us. Probably the interest manifested by industrial engineers is not without significance and may prove to be one of the opening wedges in the solution of the problem.

OPPORTUNITY OF SCHOOLS

For how many of our foregoing problems is the key to be found in the public schools? How many of the problems of adult life could be prevented if our schools were more alert to the needs of the child and better equipped to meet those needs? Is it not a challenging thought when we consider the opportunity which the schools have to reach the child in the formative years when the proper mental and physical foundation can be laid, important for the present and the future? William L. Connor, in discussing the child guidance clinic and the schools, says:

Experience shows that in every one thousand children examined at one time in an elementary school there are approximately forty or fifty who are so poorly adjusted to the home life or the work of the school that they are in some danger of becoming delinquents and eventually mentally unstable or criminal.¹⁰

Many of the behavior problems of adult life could be more effectively solved in the early years. E. K. Wickman, in *Children's Behavior and Teachers' Attitudes*, shows that we are more concerned with the problems that disturb the security, the peace, and the comfort of the adult and that we pay far

¹⁰ *The Child Guidance Clinic and the Community, Commonwealth Fund, 1927.*

too little attention to the withdrawing type of youngster, whose problem may be much more significant.

The visiting teacher movement has done much in this decade to make us cognizant of the needs of the individual child. The busy classroom teacher has little time or energy to follow the child to his home, but the visiting teacher by a call or a series of calls can do much to interpret him to the school and the school to the parents. She is concerned not so much with what the child does, even though that is important. She is primarily concerned with the cause of his behavior. Before her lies the opportunity of detecting the first signs of trouble and of securing treatment before the habit patterns are too fixed. There are now 257 trained visiting teachers operating in thirty-four states, ninety-four cities, and eight counties.¹¹ Schools of education, at least some of them, are beginning to recognize the need for the teacher to study child behavior—not stereotyped psychology but such material as the child guidance clinics are now offering. The visiting teacher bridges the gap between the school and the home. The gains in this field are significant.

The last decade has seen an advance in special classes in our schools. More emphasis is placed upon the needs of the gifted child, of the retarded child, and of the physically handicapped child. All of these attempts are constructive efforts toward the development of better adjusted individuals, which in turn will mean greater happiness now and in the future for family life.

Vocational guidance has also made progress. The choice of an occupation is an important task for the college

graduate, but how much more important to capitalize the talents of the grammar school or high school youngster, with his more limited equipment! More attention to the vocational needs of the child might do much toward the solution of some of our adult problems of unemployment, especially of the large unskilled group, as well as make for greater happiness and satisfaction in work that is ordinarily entered upon without plan.

CONTRIBUTION OF PSYCHIATRY

Probably psychiatry, more than any other branch of knowledge, has made a contribution to our understanding of family life during this decade. It has contributed a point of view that is far-reaching in significance. It has made some progress in our administration of justice, but as yet we are still prone to punish rather than to treat. Education in psychiatry is expensive and there are far too few trained psychiatrists. Many medical schools do not include psychiatry in the curriculum or else they fail to distinguish between neurology and psychiatry. Nevertheless, in some communities psychiatry has made a small beginning in helping to solve weighty family problems. Many other families would welcome psychiatric service if it could be made available. What a different place the home would be if neurotic wives could be helped to see and to solve some of their difficulties! Many of the causes of domestic difficulty would respond to treatment, and the husband and wife would not finally arrive at separation or divorce. We are appalled at our American figures on the breakdown of the family, the number of which does not seem to be diminishing. Perhaps some gain is discernible in a better understanding of human beings and of their reactions, and in a greater thoughtfulness, at least in

¹¹ Figures prepared by Miss Jane Culbert, Secretary of the National Committee on Visiting Teachers.

some communities, for the welfare of the children involved in broken homes.

Dr. Haven Emerson, at a recent meeting of the Cleveland Health Council, suggested that the greatest, overwhelming problem of the future is that of mental hygiene. We are fairly well adjusted to the physical, but we are just beginning in the field of the emotions. The greatest occupation of man is with man. Dr. Emerson predicted that sometime in the future, every great city would have its well-established bureau of mental hygiene. The last decade has shown a development in child guidance clinics which has had far-reaching effects not only on the children themselves but also on the homes, the schools, and the point of view of the whole community.

In the field of social case work, we have been so busy caring for actual cases of need that far too little effort and money have been spent in prevention and in research. With so little of factual material, it is hard to estimate gains in recent years. We can, however, note certain trends. Probably the majority of case workers would point to psychiatry as one of the outstanding contributions of this decade to the field of social work. While Mary Richmond long before this period thought of social case work as the development of personality, yet to the influence of psychiatry can be traced many of the tendencies of today.

CONSERVATION OF THE FAMILY

Case workers are called upon to assist in solving every form of human maladjustment, and whatever the need of the individual, the unit of treatment is usually conceded to be the family. Service to individuals in need is the concept of the case worker, whether she is with a family agency or a children's agency or institution, whether she is a medical social worker or is in

any of the other specialized fields. Gradually we have learned that to understand an individual we must know not only the predicament in which he finds himself today, but all the events that led up to this predicament; perhaps events starting even before his birth. Case workers are concerned with the cause and the effect of family difficulty. Only by trying to find causes and by treating those instead of symptoms, can real results be attained.

Unfortunately, we know far too little about treatment. Perhaps it would not be unfair to say that in the old days much emphasis was placed on relief as an end in itself. Now, whether relief is given in the form of rent or food or care of the child in a foster home or institution, or medical care in a dispensary, it is considered not as an end in itself but only as one form of treatment to be used for the welfare of the recipient, the treatment to be continued as long as the need remains. This means in the field of child welfare that at least some agencies and institutions are thinking in terms of the needs of the individual child and of his family. Individualization has become the key word. With the finesse of the skilled physician, a diagnosis of social problems is made and treatment is planned, perhaps over a long period.

Social workers are thinking in terms of conserving family life, of removing children from their own homes only temporarily, of working with the home while the child is away, all for the purpose of reuniting the family as soon as that is possible. Sometimes we wonder whether we are too conservative and too persistent in maintaining homes when there is no real home and no possibility of constructive effort with the parents. Unfortunately, there are no definite criteria for judging whether the child should be perma-

nently removed from the parents. We have made gains in knowing better how to study individual problems, but psychiatry may further help us to determine the hope or hopelessness of the parent who neglects his children or who is alcoholic, the deserter, or the person who does not conform in other ways to our social code.

We have learned that the child's reaction to the family situation is the greatest single factor to be considered at every stage. While we as social workers have in mind a certain norm of family life, we are realizing, too, that separation of child and parent is in reality a major operation socially and, as such, presents unusual hazards. The most perfect institution or foster home, even equipped with individual towels and toothbrushes and spotless linen closets, may not mean that conditions are conducive to the full development of a particular child. We are thinking less and less of these material things and more and more in terms of the child's emotional needs.

Geologists associate the high mountains and the depths of the sea as phases of one vast process. We may likewise conceive the peaks of social fitness as expressed in the power of the individual to function adequately in every respect, and the depths of social unfitness as expressed in poverty, low wages, illness, and accident, as phases of a process offering a challenge to all thoughtful students of social conditions. We might easily concern ourselves with any one of these conditions, but the newer case work which has emerged in the past decade has made us acutely conscious of the fact that life is a whole. The law of life is the law of the whole of life and each one of these social disasters is a phase—not *all* of life. As we contemplate the gains in the past, we anticipate with confidence further advance in the protection of the family through more enlightened, more scientific, more individualized treatment—an advance which must necessarily include immeasurable gains in child welfare.

Child Laborers' Gains and Losses Since the War

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THE aim of this paper is to evaluate the ten-year period following the end of the World War, in relation to standards for working children and progress in dealing with child labor. In marked contrast with the two decades immediately preceding, the advances made in protection of child workers in this period have been meager, and progress has been of a zigzag character.

In order to get the setting of the period, it is necessary to go back to 1917, when the first Federal Child Labor Law became effective. This set minimum standards for the employment of children, by closing the channels of interstate and foreign commerce to the products of child labor. The standards, briefly, were as follows: a minimum age of fourteen years for employment in mills, canneries, workshops, factories, and manufacturing establishments, an eight-hour day, with prohibition of night work for children between fourteen and sixteen, and of the work of children under sixteen in mines and quarries. Federal enforcement officials cooperated with officials in various states to make these standards effective—but only for nine months! In June, 1918, the Supreme Court declared the law unconstitutional.¹

Within less than a year, however, the second Federal Child Labor Law had become effective. This law laid a tax of ten per cent on the annual net profits of establishments which employed children in violation of the

standards of age and hours of work, similar to those of the first Federal law. The second law had a longer life than the first, remaining in force for three years and three weeks, until declared unconstitutional by the Supreme Court in May, 1922.²

PROGRESS UNDER FEDERAL LAW

These three years, the first third of the decade we are studying, show the greatest achievement in raising child labor standards. Let us see what happened. Only thirteen states had had statutes whose standards were in every particular as high as, or higher than, the Federal law. The children in thirty-five states were accordingly given greater protection than ever before. Moreover, the legislatures of many states improved their laws in regard to minimum age, hours of labor, or night work regulation, physical or educational requirement for going to work, or better methods of administration and enforcement. Much more rapid progress was made by the states during these years than during the remainder of the decade.

The experience with the two Federal laws brought out two things: first, the value of Federal control of child labor; and, second, the necessity of finding a way by which Federal child labor laws could be constitutional. Accordingly, an amendment to the Constitution empowering Congress to enact such legislation was introduced into Congress by Senator McCormick, of Illinois and

¹ *Hammer v. Dagenhart*, 247 U. S. 251.

² *Bailey v. The Drexel Furniture Co.*, 259 U. S. 20.

Representative Foster, of Ohio. The amendment was passed by Congress in June, 1924 in the following form:

Section 1. The Congress shall have power to limit, regulate and prohibit the labor of persons under the age of eighteen years.

Section 2. The power of the several states is unimpaired by this article except that the operation of state laws shall be suspended to the extent necessary to give effect to legislation enacted by the Congress.

The resolution submitting the amendment passed the House of Representatives by a ratio of four to one, and the Senate by a ratio of three to one; but it met with no such cordial reception in the legislatures of the several states.

Bitter controversy developed during the campaign for ratification of what came to be known as the "Children's Amendment." Labor groups, church groups, women's organizations, and educational bodies worked actively for ratification; the National Manufacturers' Association, the Sentinels of the Republic, the *Southern Textile Bulletin*, the *Woman Patriot*—an antisuffrage organ—and state manufacturers' associations were lined up in opposition.

ARGUMENTS REGARDING CHILDREN'S AMENDMENT

As several years have intervened since the controversy was at its height, it may be well to look at the arguments used pro and con, and to try to account for the fact that only five states, Arkansas, California, Arizona, Wisconsin, and Montana, have so far ratified the amendment.

What were the arguments used for the amendment? They were: that industry had become national in its scope, yet regulations governing the employment of children in different states were so uneven that the competition between manufacturers was unfair; that high standards in one state

were constantly endangered by low standards in others; that in some states, one industry was sufficiently powerful to prevent the passage of a reasonable child labor law or to prevent enforcement after such a law was passed; that persons who suffered from the educational and physical losses resulting from labor in childhood could take up residence in another state and become one of its important problems; that child labor was constantly crossing state lines, when tenement home work was done in New Jersey for New York factories, or children of migrants worked in cannery camps; that state control of such interstate situations had been and was then impossible.

What arguments did the opposition use against the amendment? They were: that it was framed in Soviet Russia; that it would nationalize the children; that it would give Congress new and unprecedented power to interfere between parent and child; that because of the upper age limit of eighteen, it would prohibit all work under that age and keep the boy from milking the cow for his father and the girl from washing the dishes for her mother; and that it interfered with "states' rights."

Without doubt, there are sincere individuals who wish to see children protected, but who question the method of Federal control. That these constituted only a small minority of the opposition to ratification, however, is indicated by the kind of propaganda and direct misrepresentation resorted to in the campaign. No concern for the welfare of child workers was shown by the organized opponents; there was no real discussion of issues, but appeal was made to the familiar bogeys of "invasion of the home," "breaking down of parental authority," and "Bolshevism." It is difficult to come to any other conclusion than that the

amendment failed of ratification because organized business interests disliked efforts which promised success in protecting children against exploitation.

It is not within the province of this paper to debate the question whether the ratification of the Children's Amendment is defeated, or only delayed, except to note that a state which has refused to ratify may reverse its decision at any time, but a state which has ratified may not reverse its decision.

During the second half of the decade, the effect on the states of the ratification controversy was to discourage improved standards; few advances have been made by the legislatures, and serious attacks on existing laws have occurred in some of the states having highest standards. The reports of the Children's Bureau, based on studies of the employment certificates issued in various cities, indicate increases in numbers of children at work in many sections. "Leave it to the states" was a slogan often heard during the ratification campaign. Perhaps it is too early to prove conclusively whether the matter can safely be left to them, but we are justified in questioning whether the experience of the last six years gives sound reason for believing that the evil can be eradicated in that way.

The central evil of child labor is the tragic cutting off of opportunity to individual boys and girls through stunted physical growth, through limited education, through getting stranded in blind-alley jobs. The waste of human life because of child labor is immeasurable. No one knows how many lives have been made dreary and hopeless because they were cheated of childhood. No one knows the artists and the thinkers and the statesmen lost to the world forever because we permit child labor.

INDUSTRIAL INJURIES TO CHILDREN

One aspect of the tragedy, however, is susceptible of quantitative measurement, namely, how many children are injured in industry and the causes and the extent of the injuries. An amazing amount of information has been brought to light during these ten years on this subject, through official and unofficial studies. The most comprehensive study was published by the Children's Bureau in 1926, covering industrial accidents to children in Wisconsin, Massachusetts, and New Jersey, and including statistics of injuries and stories of what happened to children after them.³ The Labor Departments of several states have issued special bulletins. The National Consumers' League and several state branches have made investigations.

The chief facts brought out by these studies are: the appalling number of serious injuries suffered by children at work at modern high-speed machinery; the number of these injuries occurring during the course of work prohibited by law; the paltry compensation received by these young injured workers. The movement for granting extra compensation to children injured when illegally at work has been given great impetus by these disclosures of what actually happens to working children. Five states now provide the extra protection of double or treble compensation to illegally employed children; two states grant fifty per cent extra compensation; fifteen states, however, continue to exclude from compensation children under sixteen years who are injured while illegally employed.

Bertrand Russell, in his *Education and the Good Life*, says in regard to the development of a desirable form of sensitiveness, "It may only go so far as

³ *Industrial Accidents to Minors in Wisconsin, Massachusetts and New Jersey*, Children's Bureau, U. S. Department of Labor, Pub. 152, 1926.

sympathy with suffering which is portrayed vividly and touchingly, as in a good novel; it may, on the other hand, go so far as to enable a man to be moved emotionally by statistics." What more moving statistics can there be than of children losing arms and legs and fingers? Since the first step in dealing with any evil is the recognition of its existence, these studies of children's experiences in modern industry may be the most significant contribution of the decade to child labor reform.

Because of the dominant part of the National Association of Manufacturers in defeating ratification of the Children's Amendment, a document issued by that organization in 1927 merits attention. It was entitled, *A National Education and Employment Program*, and set forth standards for employed children fourteen and fifteen years of age. Some of these standards are excellent, such as physical examinations for certification, and provision of continuation schools. As a result of widespread criticism of certain points in the program, some minor changes have been made since its first publication. When the program was made public, there was much discussion as to whether it was a minimum to bring up the standards of laggard states or a maximum to bring down those of progressive states. Two years have intervened. We find during that time no progress in raising standards which can be credited to the activity of the Association; moreover, state branches have openly opposed efforts to secure better laws. Those who have repeatedly met the opposition of these groups in legislative halls are justified in their skepticism as to the purpose of the program.

FALLACIOUS REASONING

The vogue of psychology and the eager acceptance of alleged facts about

differences in mental ability may be responsible in part for an attitude toward child labor and school attendance standards which has recently been prevalent. It is reflected in the following statement from *The Manufacturers' Program*: "In no case should these standards prevent the employment of physically able children over fourteen who are unable or unwilling to go further in school than the sixth grade and who in the judgment of their parents or guardians would be better employed at work." It is frankly stated in a pamphlet issued, attacking the laws in Ohio:

This world of ours needs mostly the kind of human material which is satisfied with a grammar school education. The majority of boys and girls get all the education they need by their fourteenth year. . . . What this world needs is a great majority of mediocre people trained to be useful and happy.

It is not necessary to point out the fallacy implied in these statements and others like them—that children who are unsuccessful or unhappy in school will be successful and happy in industry; or that it is safe to leave to illiterate and possibly greedy parents, or to inexperienced children, the decision as to whether or not they can profit by further attendance at school; or that, in a democracy, we can safely hold to the doctrine that some people are born into the world to do the dirty work for the rest of us. But whoever works for improved standards for children's entrance into industry may expect to have to meet much of this kind of argument.

Where do we stand now? In 1920, there were 1,060,858 children between ten and fifteen years of age gainfully employed in the United States, 413,549 of them being in nonagricultural occupations. Of these, 54,000 were in the textile industry. Recent uprisings in

textile centers in the South have thrown vivid light on the vicious circle of illiteracy, poverty, and child labor, which curses the mill village. Whether there has been an increase or a decrease, actual or proportional, cannot be ascertained until the 1930 census is published; although the Children's Bureau reports on employment certificates, mentioned above, indicate probable increases in certain sections.

INADEQUATE LEGAL PROTECTION

Where are we in legislative protection? There are forty-eight varieties, ranging from North Carolina, where children fourteen and fifteen years of age who have completed the fourth grade are permitted to work eleven hours a day and sixty hours a week in manufacturing industries, to Ohio, where children may not work full time during the school year unless they have passed the sixteenth birthday and completed the seventh grade, with an eight-hour day for boys under sixteen and girls under eighteen. This inequality is amazing in a period which has seen a growing national market for

manufactured products and an increase in mergers crossing state lines.

In addition to these sectional inequalities, there are occupational groups in all sections to whom little or no protection is given. There are few restrictions in agriculture, the largest field of children's employment. The increase in truck farming has resulted in an increase in migratory children who go from state to state to work. Cannery camps, cranberry bogs, and fruit and truck farms employ great numbers of migrants. They not only miss weeks of schooling, but often work long hours and live under unsatisfactory conditions. Children in street trades are for the most part unprotected, though some communities have succeeded in securing a measure of regulation.

There are people who believe that the child labor evil in the United States is a thing of the past—who conclude that because certain major battles have been fought and won there is nothing more to be done. The task of giving to every American child a high standard of protection and an opportunity for education is only begun.

The School as a Factor in Child Health

By FRANK L. KELLY, M.D.

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WHEN we realize that nearly all of the children in the United States between the ages of six and sixteen years spend approximately six hours a day for five days of the week and for ten months in the year under the direct supervision of the schools, and that for an additional one to four hours their activities and duties are largely prescribed by the schools, there can be no question as to the importance of the schools in the health of children. We must admit that schools are playing a relatively greater and greater rôle in the supervision of our children. Each child is spending an increasing period of time within their doors and greater numbers of children are attending them than ever before.

Not only are more children in school for a longer period, but the modern educational system has made more careful health supervision necessary. An example of this is the increasing importance of the school in disseminating infection. The modern educational program is calling for larger plants, which draw children from larger areas than in the past. In our junior high schools, we have children coming from several elementary school areas. This results in the introduction of communicable diseases present in one small section into the larger group, which in turn carries these diseases into the different local elementary districts through the homes. Furthermore, the improved educational methods requiring the change of classes and the intermingling of children give far greater opportunities for spreading infection than the small school with its class-

room teachers, each carrying her one class through the day.

On the other hand, the modern school with its medical and nursing service is in far better position to assume the responsibility for preventing the spread of infection. One of the most encouraging things in the modern educational program is the increasing emphasis which is being placed on health supervision.

PHYSICAL DEFECTS PREVALENT

Medical examinations of groups of persons, whether adults or children, have shown the need of more careful health supervision. The draft showed forty-seven per cent of our young men to have some physical defect and twenty-one per cent to be so seriously handicapped as to be unfit for military duty. In the University of California, thirty-five per cent of the freshmen were found to have some serious physical defect. Examinations of school children have shown anywhere from fifty to seventy-five per cent of them to have some physical defect. Those most commonly found, according to Wood,¹ are: mental defects one to two per cent; heart defects one to two per cent; tuberculosis five to ten per cent; malnourishment twenty to thirty per cent; defective vision ten to thirteen per cent; some defect of nose and throat thirty per cent; defective posture thirty to forty per cent; defective teeth fifty to ninety-eight per cent.

¹ Wood, T. D., and Rowell, H. G., *Health Supervision and Medical Inspection of Schools*, Saunders, 1928, p. 260.

The majority of the defects are either preventable or correctable. It may be that the school life itself plays some part in their production, because of faulty lighting, poor furniture, and so forth. On the other hand, even though the school may not be the primary cause of the defects, it may be the greatest factor in their prevention and correction. Its importance lies in maintaining and improving the health of the child.

It is recognized that the defects in the preschool child are just as important and numerous as those of the school child, but, at present, we have no method of group supervision until the child is in school. All health officials are interested in developing some means of reaching the preschool child and preventing and correcting defects in this group. Until this is done, however, the school must be the main route through which the preventive and corrective work is done.

HEALTH AFFECTS SCHOOL LIFE

The health of the school child is not only important to the individual but it is just as important to the school department. In every study of causes of school absence and retardation, illness has been shown to be of great importance. Mason and Howell,² in a study of absenteeism at the Lincoln School (associated with Teachers College, Columbia University), found that over eighty per cent of all absence during the five-year period from 1920 to 1925 was due to illness; and Bolt,³ at the University High School in Oakland, California, found illness to be the

cause of seventy per cent of all absence during the school year 1924-1925. Leonard Ayres⁴ found that the cost of repeaters in fifty-five American cities amounted to approximately fifteen per cent of the total school costs. He⁵ also found, in a study of nearly eight thousand New York school children, that while the normal child will complete eight grades in eight years, the average for those with defective teeth was 8.5 years, with hypertrophied, infected tonsils 8.7 years, with infected adenoids 9.1 years, and with enlarged glands 9.2 years.

Kempf and Collins,⁶ of the United States Public Health Service, in a study of approximately five thousand children in Illinois, found that: "The average number of physical defects decreases as the I. Q. increases. This tendency seems to be independent of race, language, and other similar factors." Diehl,⁷ after showing that the percentage of physical defects was higher in a group of students on probation at the University of Minnesota than among a control group, concludes that:

While it is dangerous on the basis of a preliminary study of this sort to make any generalization concerning the causal relationship of the conditions noted and scholastic attainment, nevertheless the findings are decidedly suggestive as to the value of further studies along similar lines.

The health of the school child is also of great importance to the community.

⁴ Ayres, L. P., *Laggards in Our Schools*, Russell Sage Foundation, N. Y., 1909, pp. 96-97.

⁵ Ayres, L. P., *The Relation between Physical Defects and School Attendance*, Russell Sage Foundation, Dept. Child Hygiene, Pamphlet No. 61, 1910.

⁶ Kempf, G. A., and Collins, S. W., "A Study of the Relation between Mental and Physical Status of Children in Two Counties of Illinois," *Pub. Health Rep.*, 44: 1743-1784, July 19, 1929.

⁷ Diehl, H. S., "Health and Scholastic Attainment," *Pub. Health Rep.*, 44: 3041-3050, Dec. 13, 1929.

² Mason, H. H., and Howell, J. T., "Health and Regularity of School Attendance," *Mon. Bull. N. Y. City Dept. of Health*, 16: 146-156, Dec., 1925.

³ Bolt, R. A., "Summary of Health Conditions in the University High School," *Univ. High School Jour.*, 5: 252-262, Jan., 1926.

The prevention or the correction of physical defects in the school child means that the individual will be able to take his proper place in society, unhandicapped, in adult life. The community will not only be benefited from his increased productivity but, in many instances, will be spared the expense of caring for a dependent. It has also been shown that delinquency has often been due to physical defects, and, with the correction of these defects, the problem has cleared up.

SCHOOL PLANTS ARE UNSUITABLE

Supervision of the physical condition of the child does not constitute the whole health program in the schools. It is only one phase, though the most important and probably the best developed, and the others should not be lost sight of.

The supervision of the school plant from the standpoint of sanitation and suitability to the child has been sadly neglected. Modern scientific knowledge regarding heating and ventilating, lighting, and sanitation has apparently made little impression on those who design and build our schools. Contrary to scientific knowledge, the heating and ventilating systems in many of the new school buildings introduce the fresh warm air near the ceiling, and make an attempt to exhaust the stale air near the floor. In many of the rooms, the source of light is entirely from the southern exposure and so cannot be properly regulated. The furniture used in the schools may be a contributing factor to poor posture, the textbooks may be a factor in eye strain, and the poorly ventilated and overheated room may be the cause of increased respiratory infections. Sanitary facilities are decidedly inadequate for actually putting into practice our teaching of thoroughly washing the hands before meals and after attending the toilet.

BENEFIT OR DETRIMENT IN SCHOOL

How may the school affect the health of the child adversely, and how may it affect him beneficially? When the child enters school for the first time, he comes into a new physical and mental environment. He becomes a member of an organized group and is subject to group rules and regulations. Even though he may be a member of a large family, school restraint and régime are different from anything to which he has been subjected before. There is, therefore, a possibility that the school program as such may act adversely on the child's health. The child in school, a member of a large group, is subject to exposure to any communicable disease that may appear among the other children. While all sanitarians recognize that school exposure is less intimate and less dangerous than the home play-group exposure, and that the carefully supervised school is the safest place for the child, nevertheless, the increased necessity for supervision in the modern educational program is also recognized.

In short, the school program and the school plant, if not properly supervised, may both have a detrimental effect on the child's health. On the other hand, all of the above may react favorably if properly arranged and supervised. If the school furniture and equipment is properly selected and maintained, it assists in preventing physical disability, and if the plant is adequately supervised, it can be made a most favorable environment from the hygienic and sanitary standpoint. If the school program is arranged with the proper regard for alternating periods of work and relaxation, and if every opportunity for training and instruction in health is made use of, the child is under a more favorable influence than is obtainable elsewhere.

The health program in the schools is composed, therefore, of three services: (1) supervision of the school plant and equipment; (2) supervision of the physical condition of the child; (3) supervision, training, and instruction in healthful living.

The question immediately arises, whose business is it to see that this work is carried out? Health officials are inclined to believe that it is entirely the duty of the health department, while school officials are inclined to believe that the responsibility rests with the department of education.

If we will look over the entire program we will see that it is not a simple problem. There are certain phases, such as health education, that unquestionably belong to the school department, while other phases, such as the prevention of communicable disease, unquestionably belong to the health department.

SHALL HEALTH DEPARTMENT SUPERVISE?

The health officials advance the following arguments for placing the supervision of the school child under their department:

1. The health department is charged under the law with the responsibility for the health of the community and should not delegate this authority to any other body. This is in reality a part of its police power and cannot be delegated to the school department.

2. The health of the school child is only a part of a coördinated health program. Dr. Josephine Baker⁸ says:

It would seem to be the responsibility of the health department to do whatever it can to promote the health of the community at all times and at all ages. In other words, no health department which is performing

its functions fully can possibly say "We will be responsible for the health of the community up to five years of age and then we will turn the responsibility over to someone else until the individual child is fifteen years of age." I cannot conceive that any health department should be allowed to do this even if it wished to—the function of the Department of Education is education and not health, and the function of the Department of Health is exactly what its name implies.

3. The children in the public schools do not constitute all of the child population, and the supervision of the preschool and working child are of necessity under the health department. Dr. Adelaide Brown, of the California State Board of Public Health, says:

The public school children are not all the children in any community. There is the child of preschool age, there is the working child who has a right to physical guidance, and there is the child in other than public schools. In San Francisco there are more than fifteen thousand children in the parochial schools. A health program must include all the children. Therefore I feel exceedingly strongly that the health program should be administered under the direction of the board of health.

4. Because of its police power, the health department has the authority to follow the child into the home.

5. The school department has the school child under its supervision for only five or six hours a day for only two hundred to two hundred and twenty days of the year. The child is not under the jurisdiction of this department during the remainder of the time.

6. If the school department carries out the school health program, duplication of effort must result.

ARGUMENTS OF SCHOOL AUTHORITIES

The school authorities, on the other hand, advance these arguments:

1. The child cannot make the most of his educational opportunities unless

⁸ Baker, S. J., "School Hygiene Under Boards of Health," *Am. Jour. Pub. Health*, 12: 832, Oct., 1922.

he is in good health, and it is the duty of the school department to carry this responsibility.

2. Health instruction, physical education, and other phases of the educational program are closely related to the health program, therefore the school department should supervise the entire project.

3. Since children in school are under the immediate supervision of the school department, friction might result from supervision during this time by another agency.

COORDINATION NECESSARY

When both departments present irrefutable arguments, what is the answer to the problem? If both the health department and the school department are responsible for carrying out certain phases of the school health program, under which is it to be done? The answer is in the question. Each department should have the administrative control of those phases of the program for which it is responsible; each should have full authority in its own field—the health department in the field of health inspection, and the school department in the field of health instruction. Neither working alone can present an adequate program. Dr. Finegan,⁹ formerly Superintendent of Public Instruction of Pennsylvania, says:

There is more or less of a conflict between state and local health authorities and state and local education authorities as to who shall administer health work. I have had experience under both plans. It was my privilege to work on the state education department of one of the great states of the Union for several years in which the health work was under the direction of the educational authorities. I have more recently

worked in a state where the medical inspection is under the direction of the health authorities and the other provisions of the health program are under the direction of the school authorities. Neither of these plans is satisfactory and neither yields the results which should be obtained from the administration of a modern, progressive health program.

The educational authorities should recognize without further delay that the health authorities of the country, state and local, have an organization and possess certain practical and scientific information which is absolutely essential in the proper administration of a health program in the schools. The school authorities should recognize at once that the health authorities must be given a vital and effective part in any health program. The most satisfactory and effective results cannot be obtained without the service of the health authorities.

There should be a coordination of the administrative authorities of government which have an official or professional relation to this great subject.

CENTRALIZED SUPERVISION NEEDED

The Report of the Advisory Committee on Health Education of the National Child Health Council¹⁰ reads as follows:

Health work in the schools cannot be divorced from health work in the homes without injury to both. To be fully successful, school health work, particularly that which has to do with training in the practice of health habits and medical and nursing supervision, must be adjusted to meet the needs of home conditions and home life. Unfortunately, the attempt is made in many places to do work of this kind without such adjustment. Efforts to promote the health of children both in the school and in the home should be linked up closely, either by a personnel which is serving both, or else through the closest sort of coordinating supervision. It is not simply a matter

⁹ Finegan, T. E., "School Hygiene Under Boards of Education," *Am. Jour. Pub. Health*, 12: 828, Oct., 1922.

¹⁰ Rep. Advis. Comm. on Health Educ. of the Nat. Child Health Council, "Health for School Children," *School Health Studies No. 1*, Dept. of Inter. Bur. of Educ., 1923, pp. 7-9.

of avoiding duplication; it is a much larger question; the return to sane, wholesome, and thorough consideration of such problems as a whole, rather than the partial and one-sided consideration which is difficult to avoid where there are unrelated special agencies dealing with the same basic problem. . . .

If school work is to be conducted efficiently, the two boards (education and health) must cooperate and any arrangement which is made for its conduct should be entered into only after they have jointly approved a written agreement clearly defining the basis for cooperation, and providing for centralized supervision of all phases of the program.

Where it is possible to find a person mutually agreeable to both boards, and qualified by training and ability to take charge of all phases of school work, he should be appointed under the terms of an agreement of the kind mentioned in the preceding paragraph. Such a person should, in all cases, have the powers, privileges, and obligations of a member of the school staff, regardless of the source of his salary or supervision.

COMBINED NURSING SERVICE

Clark,¹¹ of the United States Public Health Service, after a survey of the health work in Minneapolis, made the following recommendation:

The designation of the commissioner of health as director of the department of hygiene of the board of education is the first step toward combining the related functions of the educational and health authorities for the preservation of the health of the school children. This correlation of activities should be extended to include the nursing personnel of both organizations. The city should be redistricted and the nurses should be assigned in sufficient number to each district to furnish the combined school and public health nursing service. Under the present arrangement, homes are visited by school nurses, by the contagious-disease nurses of

the division of public health, by the tuberculosis nurses, by nutrition workers, by the nurses of the visiting nurses' association, and by representatives of a number of social agencies, greatly to the annoyance of those whom they wish to serve. Unification of the duties of the city-school and public-health nurses will permit of the assignment of qualified nurses in sufficient number to carry on these combined activities. Such an arrangement will be more economical and produce more satisfactory results than is possible under the present system.

The recommendation of Dr. Clark is the answer to the administrative problem involved. It means more than cooperation between the two departments operating independently. It means cooperation to the extent of establishing a unified, integrated health service not only for the public school children but for all of the children in the community. This type of service has been the aim of all health officials and all school officials who have given the problem careful consideration. It definitely answers the question of where the responsibility of administration should be placed.

Neither the health department alone nor the school department alone, but the two together, operating through a combined service with a single director, should administer the program.

THE BERKELEY PLAN

Such a unified service was put into effect in Berkeley, California in 1923, when the health officer was appointed director of health for the schools by the Board of Education. The nurses of the health department were appointed as school nurses, and the school nurses were appointed as health department nurses. The city was districted and a public health nurse was placed in each district to carry on the work of both the health department and the schools.

¹¹ Clark, T., "School Health Supervision in Minneapolis, Minn.," *Pub. Health Rep.*, 36: 1902-1936, Aug. 12, 1921.

In 1924, the Berkeley Health Center, operating the clinics for those unable to pay for medical care, became a part of the organization by appointing the health officer medical director and by using the school-health-department nurses as visiting nurses. This brought all of the organizations offering health service in Berkeley under one director and provided a single field service through the public health nurses. This service is greatly appreciated by the people of the community, because they are visited by only one nurse and she is able to take care of any condition she finds, whether it falls under the jurisdiction of the health department, the school department, or the health center.

Two fifths of the director's salary are paid by the school department, two fifths by the health department, and one fifth by the health center. Four sevenths of the salaries of the nurses are paid by the school department, two sevenths by the health department (plus ten dollars cash auto allowance and free gas and oil), and one seventh by the health center (plus fifteen dollars cash auto allowance). This arrangement gives the most efficient service possible, for the least expenditure of money and effort, as well as with the least annoyance to the persons served. It also eliminates friction among the three organizations, for they are unified so far as direction and field service are concerned.

EFFECTIVENESS OF UNIFICATION

Two examples illustrating the saving accomplished by the combination may be cited. If the nurse, acting in her school capacity, visits a three-day absentee and finds the child with a communicable disease, she does not communicate with the health department (which would send out a contagious disease nurse under the usual

administrative program) but drops her rôle of school nurse, turns health department nurse, makes out the epidemiological investigation card, gives her instructions regarding isolation and care of the case from the standpoint of spreading infection, and locates her contacts, getting them under immediate observation. All of this is accomplished by *one* visit of *one* nurse. The result is a saving of time, money, and effort on the part of the health service and a saving of trouble and inconvenience to the family served.

In another case, a child may be referred to the nurse by the classroom teacher as being suspected of having a communicable disease. If the child's parents have signed a card stating that they object to an examination by the school medical service, under the California school law the child may be sent home, but cannot be examined by the school nurse. This means that a health department representative would have to call at the home. Under the single service, however, the nurse immediately examines the child, not as a school nurse but as a health department nurse, taking such measures as are necessary to prevent further spread of the disease.

The advisability of the operation of clinics by the school department has been much debated. The Berkeley combination avoids this difficulty by providing adequate clinic facilities through the Berkeley Health Center, for those unable to pay for medical service. The public health nurse thus has clinic services available for her school children, and although the clinics are not operated by the school department, they are a part of her own organization. The fact that the plan has been in operation since 1923 and that the staff of nurses has increased from seven to fourteen seems to prove

the combination to be practical. Some may hold that one cannot serve two masters, to say nothing of three, but they lose sight of the fact that the master in this case is not the school depart-

ment, the health department, nor the health center, but the community, with its program of health conservation, of which the school children are an important part.

Mouth Hygiene as a New Factor in Child Health

By EMERSON R. SAUSSER, D.D.S.

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THE rapid and pronounced changes in diet, environment, and habits of living, correlated with our so-called advancement in civilization, have brought with them numerous public health problems, not the least of which is the astonishing prevalence of dental diseases. In every civilized community, the initial lesion of dental caries is appearing in earliest childhood. As a world-wide problem in public health, the situation is both perplexing and serious, because: (1) the incidence of the disease is practically universal; (2) the causes are complex; (3) the facilities for combating the disease are totally inadequate; (4) the sequelæ of the disease are recognized as dangerous to health and even to life.

THE PREVALENCE OF DENTAL DISEASE

Even a cursory examination of the vital statistics from European, Asiatic, and American countries shows an almost unbelievably high incidence of dental disease. Innumerable surveys of local dental problems are being made in all lands by individual or organized effort. As a general rule ninety-five per cent of the school children are afflicted with neglected dental caries, oral sepsis, and mouth malformation. A few examples, taken from some of the recent and more thorough surveys, will suffice to show what the conditions are in large cities and civilized countries throughout the world.

Dublin and Hyatt have recorded the following results of several investigations of the mouths of children in

New York and other large cities:

Mouth infection is probably the commonest of all human diseases; practically all adults, and a majority of the children suffer from greater or less dental infection. More than ten million children in the United States have seriously defective teeth, according to one estimate. Another authority shows that between seventy-five and ninety-five per cent of all children have one or more defective teeth. Ninety-eight out of every hundred first grade children examined recently in New York City have cavities in their first permanent molars, so that between the ages of five and eight these children's permanent teeth were already impaired. Another New York investigation in a group of nearly 1,400 children showed that 96.5 per cent had defective teeth and that these children averaged nearly seven cavities each. The largest number of cavities found were among the seven and eight-year-old children, who averaged 7.6 cavities each.

An examination of 6,788 first and second grade children in Bridgeport, Connecticut, showed an average of seven cavities per child. Ten per cent of these children had open sores on their gums, which were the outlet of root abscesses. In Milwaukee, out of 26,700 more than 23,000 had defective teeth; in Chicago, examination of 33,381 public school children showed more than 30,000 with carious teeth. Examination of high school children showed more than thirteen per cent of the first molars were missing. Another estimate made upon very good authority, is that eighteen to twenty-two per cent of the first permanent molars are lost by the time the students reach high school, and that forty-eight per cent of the people between thirty and forty years of age have lost permanent molars.¹

¹ Dublin, Louis I., and Hyatt, Thaddeus P., "Teeth and Health," *Harper's Magazine*, p. 754, May, 1929.

From Talbot's statistics we have:

In the Morse School, Chicago, composed of one thousand well-to-do children, ranging from eight to fourteen years, 965, or 96.5 per cent had defective teeth. In Toronto, Canada, out of 49,081, ninety-five per cent had decayed teeth. It is safe to say then that seventy-five to ninety-five per cent of all children in the United States under eighteen years of age have defective teeth.²

From Japan, Mukai reports that of 57,864 children examined in Osaka, 49,763, or eighty-six per cent, had decayed teeth; in Nagoya schools, 77.95 per cent of the 87,819 children had decayed teeth.³

Jones, Larsen, and Pritchard have made an extensive investigation and study of the condition of the teeth of various racial groups of preschool children in Hawaii. It shows the recent appearance of a most destructive type of dental caries, affecting a high percentage of the children before they are three years of age. The following comment is found in the report:

Evidence available leaves little doubt that the rampant tooth decay suffered by the Hawaiian child today is of recent origin. With a background of many hundreds of years in the same environment, it is difficult to explain the sudden appearance of this type of dental disease on grounds other than change in diet. In general, this has consisted of a substitution of bread and cereals for taro, yams, fruits and vegetables. The result has been a decrease in vitamins and minerals and a relative increase in acid constituents in the food ash.⁴

² Talbot, E. S., "Dental Caries," *Nelson Loose Leaf Medicine*, Vol. 5, p. 3, 1922.

³ Mukai, Yoshio, *Transactions of the Seventh International Dental Congress*, Vol. 2, pp. 1844-1845, Aug. 23, 1926.

⁴ Jones, Martha R., Larsen, Nils P., and Pritchard, George P., "Dental Disease in Hawaii," *Dental Cosmos*, p. 694, July, 1930.

FURTHER STATISTICAL STUDIES

Emerson⁵ records data obtained in a complete dental, oral, and orthodontic examination of 8,500 children in the public and parochial schools of Philadelphia, ranging from kindergarten through the eighth grade. This sample of the child population is sufficiently large to give results applicable to the entire child population of the City. It was found that 74 per cent of these children had caries and had received no attention, while 24 per cent of them had caries and had received partial attention. There were 0.2 per cent who had caries but had received complete dental attention, while 1.8 per cent had perfect teeth. Conservatively estimated, over twenty per cent of the children needed orthodontic treatment, largely due to mutilation following the extraction of teeth carious through neglect. This estimate includes only those requiring orthodontia to safeguard health and efficiency, and omits all cases based on æsthetic or cosmetic reasons. Furthermore, the survey shows that over ninety per cent of the carious teeth are totally neglected and less than ten per cent are filled.

It is estimated that in Philadelphia, 343,000 out of 350,000 children in the public and parochial schools have a definite physical defect in the form of dental disease—more than all other physical defects combined. In fact, the school medical examiners, who have neither the time, the facilities, nor the training to make a complete dental diagnosis, report that dental defects are the most prevalent of all defects among school children. Each year, forty thousand children enter the public and parochial schools, ninety-seven per cent of whom already need dental treatment and average nine neglected

⁵ Emerson, Haven, *Philadelphia Hospital and Health Survey*, p. 550, 1929.

cavities per child in permanent and temporary teeth.

In the sixth and seventh grades, the average number of neglected cavities per child in the permanent teeth is eight. Of all the permanent teeth, the most vulnerable appears to be the first permanent, or six-year, molar. Whatever other antecedent causes may be factors in the widespread disease of this tooth, certainly the length of time it is exposed to the mouth conditions gives more opportunity for decay to set in and make progress.

Detlefsen and Sausser⁶ found in the six-year molars of 5,405 white children, ranging from the kindergarten through the eighth grade, 4,305 fissures, 3,115 pits, 10,350 unfilled carious cavities, and 2,426 fillings. By the time these children were graduated from the eighth grade only eight out of a total of 621 had four perfect first permanent molars, while fifteen per cent of these molars had been extracted and twelve per cent were so badly decayed that they were a menace to health, having exposed pulps. From the second grade through the eighth grade, the lower six-year molars consistently showed a higher rate of decay and consequently a higher rate of extractions. Out of a total of 1,411 first permanent molars extracted in these school grades, 1,061 were lower molars, while 350 were uppers. The obvious conclusion is that the first permanent molar is the most vulnerable of all teeth.

The case records collected by Brekhus⁷ agree with these findings, for in 9,450 patients at the Infirmary of the Dental College of the University of Minnesota, ranging from nine to

seventy-five years, he found that the lower first permanent molars were the first teeth to disappear through neglected dental caries. At the age of ten these teeth are lost in 10 per cent of the boys and 15 per cent of the girls. At the age of fifteen the loss is 30 per cent in the boys and 35 per cent in the girls. At the age of twenty the loss is 40 per cent in boys and 47 per cent in girls. The increase in rate of loss is apparently very rapid, so that at the age of forty, 75 per cent of the women and 63 per cent of the men have lost these teeth.

Sousa⁸ likewise stresses the vulnerability of the first permanent molar and states that in Latin America it is the exception to find a set of teeth with this molar intact or present at all.

The importance of safeguarding the first permanent molar, especially in the growing child, cannot be overemphasized. This tooth, particularly the lower molar, is a tremendous factor in determining the growth of the upper and lower jaws and in establishing the normal occlusal relationship between the upper and lower teeth. The early loss of this tooth not only affects these important anatomical relationships but also decidedly interferes with the proper development of the respiratory passages and the sinuses, and often causes a disharmony in facial configuration.

CAUSES ARE COMPLEX

No radical attack or effective solution of such a widespread disease as dental caries can be undertaken without full consideration of the network of causes back of this syndrome. Dental research in many countries has shed

⁶ Detlefsen, J. A., and Sausser, Emerson R., Philadelphia Mouth Hygiene Association Records, 1929, unpublished.

⁷ Brekhus, Peter J., *Transactions of the Seventh International Dental Congress*, op. cit., Vol. 2, p. 1931.

⁸ Sousa, A. C., "The Influence of Mastication and of the First Permanent Molar on the Esthetics of the Face," *Transactions of the Seventh International Dental Congress*, op. cit., Vol. 2, p. 1899.

considerable light on the causes, the ultimate object being to obtain true prevention rather than to treat or check symptoms.

While, generally speaking, an attempt has been made for convenience to divide the causes into extrinsic and intrinsic, there is no doubt that the end result is emphatically due to the interaction of both sets of causes. It seems that it is the fortuitous combination of certain constitutional and environmental conditions that determines the incidence and the rate of decay. For example, clinical observations show many cases of soft teeth without decay and of hard tooth structure with decay, and of well-kept mouths with decay and neglected mouths without decay.

Dental caries is a process in which the hard structures of the teeth are progressively decalcified and disintegrated by acids accumulating on certain favorable areas, such as fissures, pits, and other points conducive to the retention of food, mucin, and foreign materials. Fissures, pits, and often grooves are, generally speaking, developmental defects or faults, and dental research has definitely determined through the studies of Hyatt and Lodka, as quoted by Bödecker, "that only one out of 2,250 fissures remains immune to dental caries".⁹ This accounts for the high prevalence of caries on the occlusal surfaces of molars and bicuspid, where these developmental defects appear as food-retaining areas. Other areas susceptible to dental caries are those adjacent to defective fillings, ill-fitting crowns and appliances, faulty contact points, gum margins, malposed and crowded teeth, and so forth.

Generally listed among constitutional causes in the diathesis leading to caries

are also race, heredity, general health, age, diseases of childhood and later life, unbalanced metabolism, and so forth.

ENVIRONMENTAL FACTORS

Quite as effective as these causes, generally classed as constitutional or intrinsic, are the environmental or extrinsic causes. However, no pretense is made that a clear line of demarcation is always possible, for constitutional and environmental causes are often curiously correlated. Unfortunately, the limitations of this discussion permit only the briefest enumeration of extrinsic causes, not at all commensurate with their importance. Animal experimentation and clinical observations indicate two chief environmental factors—defective nutrition and the presence of an overgrowth of aciduric microorganisms in the mouth.

The effects of unbalanced or deficient diet and nutrition on animals and human beings have made clear their relationship to the production, the control, the arrest, and the prevention of dental lesions and caries, and certain types of pyorrhea. Certain essentials for bone and tooth growth must be included in an adequate diet, in addition to all factors which are conducive to general bodily growth, such as sunlight, fresh air, exercise, personal hygiene, and so forth. A well-fortified diet includes proper amounts and proportions of calcium, phosphates, and other minerals, and the necessary vitamins. Such requirements are present in milk, green vegetables, fruits, and cod-liver oil, avoiding an over-ingestion of carbohydrates, such as free sugar and starches.

The physical character of the food also has an important bearing on mouth cleanliness, alimentary elimination, and proper functioning through exercise of the soft and hard tissues of the mouth and the jaws. Hard toast,

⁹ Bödecker, C. F., "Rational Means of Controlling the Evils of Incipient Dental Caries," *Dental Cosmos*; Vol. 71, p. 287, March, 1929.

fibrous vegetables, and fruit juices supply exercise and have a cleansing or detergent effect. Furthermore, we have curiously accustomed ourselves to eat a dessert or food at the end of the meal which leaves a starchy or glutinous plaque on the teeth as a foothold for aciduric organisms, whereas a detergent food, such as fruit or fruit juices, would appear more logical.

Research on the other main environmental factor, the overgrowth of aciduric microorganisms in the mouth, has been pursued since the early researches of Willoughby D. Miller, thirty years ago. Several investigators have produced lesions in human and animal teeth comparable to such as are found in ordinary dental caries, by subjecting the dental structures to the action of an overgrowth of the *Bacillus acidophilus*.

Demonstrations on established groups of school and institutional children, notably by Boyd and Drain,¹⁰ Bunting,¹¹ and Hawkins,¹² have recently indicated that these two avenues of approach, through diet and mouth cleanliness, offer a practical plan of true prevention.

SHORTAGE OF DENTAL PERSONNEL

A priori, the average dentist operates two thousand hours a year, and each patient receives an average of four hours attention. This gives the average dentist a yearly capacity for treating five hundred persons, or 120 families. In the United States there are 68,000 dentists, of whom probably 60,000 are actively engaged in practice.

¹⁰ Drain, Charles L., and Boyd, Julian D., "Dietary Control of Dental Caries," *Jour. Am. Dent. Assoc.*, Vol. 14, p. 738, April, 1930.

¹¹ Bunting, R. W., "Certain Considerations in the Problem of Dental Caries," *Dental Cosmos*, Vol. 72, p. 406.

¹² Hawkins, Harold F., "Dental Decay: What it is and Means for its Control," *Jour. Am. Dent. Assoc.*, Vol. 16, p. 795, May, 1929.

This makes a ratio of one dentist to every two thousand persons, or collectively, a service available to not more than one-fourth of the total population. Although the distribution of dentists varies throughout the country, the proportion being greater in cities and in communities having dental schools, nevertheless even in these places the ratio is less than one dentist to every thousand persons.

For example, Greater New York City, with three dental schools, has five thousand dentists to a population of six million or more, and therefore shows a ratio of one dentist to twelve hundred persons. In Philadelphia, with two dental schools and a population of 2,100,000 persons, we find 1,550 dentists—one to 1,350 persons—who could only see a total of 775,000 persons in a year. Excluding the demands of a large suburban clientele, there must remain at least 1,325,000 persons without any dental attention each year. This number includes 260,400 school children in Philadelphia totally uncared for each year, with dental decay and oral sepsis running rampant. To one who is familiar with the dental problem, such negligence to the child is an atrocity to general public health, especially when preventive measures of a practicable and feasible nature are available.

INTERNATIONAL ASPECT

Internationally reviewed, the shortage and uneven distribution of dentists is greatly emphasized. One can conservatively estimate that there are not more than 200,000 persons, qualified or unqualified, available to the dental needs of the world. It is easy to make a fairly accurate estimate of the number of qualified dentists in the Western Hemisphere, because of a more uniform and permanent condition of the dental educational policy and of the laws

governing the practice of dentistry, as compared with the varied conditions that exist abroad. For example, as has been said, the United States has 68,000 registered dentists; in Canada there are 3,500 and in Latin American countries there are about 7,500, making approximately 70,000 actively practicing dentists in the Western Hemisphere.

Following is a table covering the approximate number and distribution of dentists in various countries, that gives further information concerning the international aspect of the question. The number represents all dentists, whether actively or inactive engaged.

ent rating. Of the thirty thousand dentists, ten thousand are called *Zahn-ärzten*, who are fully recognized as to preliminary training; the remaining twenty thousand are called *Dentisten*, who are also legalized to practice. In Italy, at present, it is lawful for a physician to practice dentistry after taking a two weeks' specialized course under private instruction, whereas a fully licensed dentist must also hold the medical degree.

In India, Khambatta reports that "of the five thousand dentists in the whole of India, ninety-five per cent of them are unqualified men, who though supposed to relieve suffering humanity, are really augmenting that suffering

TABLE I

Country	Population	Number of Dentists	Number of Persons to Each Dentist
United States.....	129,680,000	68,000	1,760
Germany.....	63,000,000	30,000	2,100
Norway.....	2,700,000	996	2,710
Great Britain.....	46,800,000	12,000	3,900
France.....	40,000,000	7,250	5,517
Switzerland.....	4,000,000	750	5,666
Sweden.....	6,000,000	1,083	6,857
Japan.....	70,920,000	10,000	7,092
Argentina.....	9,000,000	1,200	7,500
Austria.....	6,500,000	750	8,666
Holland.....	7,000,000	650	10,000
Italy.....	40,000,000	3,000	14,285
Rumania.....	18,000,000	1,200	15,000
India.....	350,000,000	5,000	70,000

The difference in the dental laws, especially in the countries abroad, appertaining to the legalization of persons to the practice of dentistry makes it impossible to define who is and who is not qualified in the full sense of the word. Some practice with degrees implying an adequate preparatory course of study, and others without any educational credentials.

In Germany, there are two groups of practicing dentists of entirely differ-

beyond conjecture."¹³ In New Zealand, because of the great shortage and the wide distribution of dentists, the government is training young women in elementary operative technique and sending them out as an organized group, under government control, to minister to the dental needs of the child population.

¹³ Khambatta, S. M., "Present Status of Dentistry in India," *Transactions of the Seventh International Dental Congress, op. cit.*, p. 2238.

POPULAR NEGLECT OF DENTAL NEEDS

Haven Emerson says: "In no field of public health has the discrepancy between need and performance been so wide as in that of mouth hygiene."¹⁴ It has been estimated and generally accepted that in the United States approximately twenty per cent of the people visit a dentist at regular intervals, more or less for preventive dentistry. It is obvious that the remaining eighty per cent are more or less neglected. It is not uncommon in examining the mouths of large industrial groups to find a deplorable extent of neglect, indicating that the great majority of persons go to the dentist only when compelled through the distress of pain or the thought of impending trouble.

For instance, Westaby has recently reported that in the Dental Department of the Amalgamated Clothing Workers of America, which is supported by and open to members of the organization and their families, fifteen hundred persons presented themselves for examination and advice in 1929. Many of them would not permit any work to be done and others could not because of financial conditions, most of the latter being from the more poorly paid workers of Jewish, Polish, and Italian nationalities. Of this number, approximately twenty-five per cent agreed to a full mouth examination, which included the use of the X-ray in conjunction with the regular clinical mouth examination. Quoting Westaby as to the mouth conditions found, he says:

an average of four chronic alveolar or so-called blind abscesses existed per patient, varying from none at all in some of the cases to as high as fourteen in a single mouth, with a large number having ten and twelve. Pyorrhea pocket formations in a

large number of the cases varied from a single pocket in some of the cases to deep pockets on the roots of all the teeth in the mouth.¹⁵

These two types of infectious areas are the commonest dental causes of systemic disease. Of the two, infection around the root end of the "dead" or pulpless tooth is more dangerous and more prevalent. Usually these unfortunate people of the neglected groups resort to the blessing (?) of toothache drops for relief. Too often, they are later found in hospital clinics suffering from serious systemic infections of obscure dental origin. Evidence of this is seen in the steady growth of dental clinics attached to hospitals in recent years.

It is deplorable that dentistry has not the facilities, in the form of large dental hospitals or dental infirmaries, to relieve the situation that exists among so large a portion of the adult population, as by early and proper dental care, most of the systemic diseases of dental origin are preventable.

THE FINANCIAL FACTOR

Perhaps one of the chief impediments to any program effectively to combat and eventually to eliminate dental disease is the inability of the majority of the population to adjust the family budget properly to meet the dental needs. This inability is sometimes due to real financial stringency, and sometimes to lack of appreciation of relative values.

In a very illuminating study on dental care and the family budget, Michael Davis¹⁶ pointed out that

¹⁴ Westaby, H. P., "Is Dentistry Meeting Its Social and Health Obligation to all Members of the Community?" *Official Bulletin of Chicago Dental Society*, p. 11, April 18, 1930.

¹⁶ Davis, Michael M., "Dental Care and the Family Budget," *Jour. Am. Dent. Assoc.*, Vol. 15, p. 2039, Nov., 1928.

¹⁴ Emerson, Haven, *op. cit.*

eighty-six per cent of all annual family incomes were below two thousand dollars, and ninety-four per cent were below three thousand dollars. Davis' statistics indicate that sixty-four per cent of all families with an annual income of less than \$2,100 spend nothing on dental care. Furthermore, sixty-one per cent of all families regardless of income spend nothing whatsoever on dental care. The average sum spent by all families was \$8.23 per year, or less than \$2.00 per individual—an amazingly small sum that falls far short of meeting the real needs which we know are present.

The very great majority of the population is unlikely to buy preventive dentistry on a private practice basis, for the reason that in most family budgets the immediate present necessities or even luxuries are competing with the generally misunderstood future values of prevention; and in this competition, the present needs are more likely to receive consideration.

While Davis' statistics indicate a positive correlation between the amount spent for dental care and the size of the family income, perhaps the most encouraging aspect of the situation is that education and an appreciation of the real value of preventive dentistry to present and future health may apparently be effective in spite of small incomes. More than ninety per cent of professional families (faculty of University of California) included some dental care in the budget, and they averaged fifty dollars per year for dentistry. This may be compared with the fact that only sixty two per cent of wage-earning families at the highest income level—over \$2,500 per year—spent anything for dentistry, and their expenditure was less than thirty dollars per family.

SYSTEMIC EFFECTS

Throughout the ages, dental caries has been looked upon as a common evil, solely because of its widespread prevalence and annoyance. However, in recent years, it has been generally recognized that infection following dental caries and pyorrhea, as well as infection associated with other mouth conditions, is not necessarily confined to the local tissues, but is frequently the cause of pathological disturbances in other parts of the body.

Prior to 1900, dental clinicians had been recording in medical and dental journals case histories strongly indicating a causal relationship between dental infection and systemic disease. These cases had mostly to do with acute localized dental infection, such as acute dental abscesses of sufficient virulence to cause an extensive and serious involvement of the adjacent tissues or the general blood stream. Also cases of pyorrhea, with systemic effects said to be due solely to the direct swallowing of septic matter, were reported. Many cases of systemic nerve reflexes traced to an irritated or inflamed dental nerve or to an impacted tooth were cited. The systemic effects of an impaired mastication due to the loss of teeth, pyorrhea, or mouth deformities were equally well known. Although this steady accumulation of clinical evidence only slowly awakened interest in the average medical mind, it deeply awakened in the dental mind a growing conviction of the relationship of its branch to general medicine, affecting in no small way the cultural and scientific growth of dentistry towards that of a true profession.

However, in later years, with the development of the theory of focal infection, the mouth has been revealed as playing a more insidious rôle in systemic disease. For with the principle

of focal infection firmly established in medicine today, it is recognized that in the mouth as well as elsewhere, there can exist hidden areas of chronic infection, that, although symptomless, frequently act as primary or contributing foci of infection in producing disease in other parts of the body. Thus, the dentist has been placed under equal responsibility with the physician and the surgeon in the prevention and the cure of various systemic diseases, especially because of the high prevalence of such infectious areas in the dental field.

Historically, it is interesting to note that the mouth was closely associated with the early writings that led up to the theory of focal infection. In 1818, Benjamin Rush, a distinguished Philadelphia clinician, wrote:

I have been made happy by discovering that I have only added to the observations of other physicians in pointing out a connection between the extraction of decayed and diseased teeth and the cure of general disease. . . . When we consider how often the teeth when decayed are exposed to irritation, from hot and cold drinks and ailments, from pressure by mastication, and from the cold air, and how intimate the connection of the mouth is with the whole system, I am disposed to believe they are often the unsuspected causes of general, and particularly of nervous diseases. . . . I cannot help thinking that our success in the treatment of all chronic diseases would be very much promoted by directing our inquiries into the state of the teeth in sick people and by advising their extraction in every case in which they are decayed. It is not necessary that they should be attended with pain in order to produce diseases.¹⁷

In 1891, Miller, one of the most brilliant minds that dentistry has produced in the research world, wrote:

¹⁷ Rush, Benjamin, *Medical Inquiries and Observations*, Philadelphia: Matthew Carey & Sons, Vol. 1, p. 199, 1818.

During the past few years the conviction has grown continually stronger among physicians as well as dentists that the human mouth as a gathering place and incubator of diverse pathogenic germs performs a significant rôle in the production of various disorders of the body, and that if many diseases whose origin is enveloped in mystery could be traced to their source they would be found to have originated in the oral cavity.¹⁸

EMPHASIS UPON FOCAL INFECTION

The work of William Hunter,¹⁹ of England, reported in a series of papers during the period between 1898 and 1910, acted as a tremendous factor in the development of the theory of focal infection. In these writings, he continually emphasized the importance of the dental field in relation to general health. In 1911 he published a paper containing extensive clinical data to show the vital relationship of what he termed "oral sepsis" to systemic disease. Incidentally, in this paper Sir William unmercifully excoriated the dental profession for the existence of the various infections he found to be so prevalent in the hospital clinic.

Hunter's convictions were based principally on clinical observations, wherein an improvement was noted in a variety of systemic disturbances in many cases, following the extraction of teeth. The evidence, convincingly presented, had a powerful effect on the medical and the dental as well as the public mind; for if scientifically proved, it would make possible the prevention

¹⁸ Miller, Willoughby D., "The Human Mouth as a Focus of Infection," *Dental Cosmos*, Vol. 33, p. 789, 1891.

¹⁹ Hunter, William, "Dental Diseases in Relation to General Diseases, Especially to Infective Gastritis," *Trans. Odontol. Soc.*, p. 92, 1898-1899; "Oral Sepsis as a Cause of Disease," *Brit. Med. Jour.*, Vol. 2, p. 215, 1900; *Pernicious Anemia*, London: Charles Griffin Co., 1901; "The Role of Sepsis and Antisepsis in Medicine," *Lancet*, Vol. 1, p. 79, 1911.

and the cure of the many acute and chronic diseases heretofore known as the "degenerative diseases of mankind."

Many laboratory investigations followed, that soon placed "focal infection" on a scientific foundation for future study. Notable in this connection is the work of Billings²⁰ and Rosenow,²¹ who, by combining clinical observation with experimental studies on animals, established the causal relationship of the organism in the original focus to the secondary lesion. Since then, voluminous articles have been written on the subject, and reports from an army of able workers from both the research laboratory and the clinic, throughout the world, have amply supported the early convictions of Hunter and the pioneers that followed.

As a result, the earlier conceptions of focal infection have been greatly broadened and the causes of many diseases heretofore obscure are now better understood. Medical science has gained a new therapeutic principle that has greatly modified not only the practice of medicine but that of dentistry in every part of the world. Daland writes:

The clinical proof that focal infection causes systemic diseases rests upon: (a) observed association of cause and effect, (b) removal of the focus followed by disappearance or amelioration of the disease, (c) removal of the focus followed by disappearance of leucocytosis or lymphocytosis, (d) and by the exclusion of any other known cause of the disease.

The location of the primary focus of infection may be anywhere but occurs most frequently in the cavities of the head.

²⁰ Billings, Frank, *Focal Infection*, New York: D. Appleton & Co., 1916.

²¹ Rosenow, E. C., "Elective Localization of Streptococci," *Jour. Am. Med. Assoc.*, Vol. 45, p. 1687, Nov. 13, 1915.

After forty years of age the teeth or gums are the most frequent seat of the primary focus of infection, whereas in the young it is the tonsils. The seat of the focus of infection in the order of frequency is: (1) roots of teeth and gums, (2) tonsils and peritonsillar tissue, (3) the antra, ethmoid, sphenoid, frontal, mastoid, middle ear, (4) gall bladder, (5) appendix, (6) the genito-urinary and respiratory tracts.²²

PREVALENCE OF DENTAL INFECTION

The prevalence of dental infection is naturally very great among adults, especially the infections found surrounding the root end of the pulpless tooth, which is the type responsible for most of the systemic disturbances that occur. Several clinicians have gathered statistics to determine the average incidence of chronic dental infection in the adult and it is surprising how the various tables conform in showing the universal neglect that exists. Haden, after giving the data presented in the tables on the following page, says:

The very much higher incidence of dental infection in those with systemic infection than in those showing no systemic disease is emphasized by the findings in one hundred patients I reported in making a study of the differential leukocyte count. One hundred per cent of forty-seven patients with disease of focal origin had pulpless teeth and seventy-seven per cent had periapical areas of rarefied bone; of fifty-three patients with no disease of focal origin, only forty-seven per cent had pulpless teeth and thirty-two per cent had one or more teeth showing rarefaction of bone at the apex.²³

²² Daland, Judson, "Focal Infection and Its Consequences," Reprint of Paper Read before the Academy of Medicine, Toronto, Canada, April 3, 1917, p. 3.

²³ Haden, Russell L., *Dental Infection and Systemic Disease*, Philadelphia: Lea and Febiger, pp. 28, 32 and 33, 1928.

TABLE II—INCIDENCE OF PULPLESS
TEETH AND PERIAPICAL INFECTION

Number of patients (7000 films)	500
Patients with pulpless teeth (per cent)	91
Patients with periapical rarefaction (per cent)	68
Average number of pulpless teeth per mouth	3.9
Average number of areas of rarefied bone per mouth	1.5
Average number of missing teeth per mouth	6.4

TABLE III—INCIDENCE OF ROOT FRAGMENTS
AND RESIDUAL INFECTION IN EDEN-
TULOUS JAWS

Number of patients examined	155
Number of jaws examined (3200 tooth areas)	200
Number of root fragments found	86
Number of foreign bodies found	16
Number of residual areas found	5
Percentage of jaws showing root fragments	28.5
Percentage of jaws showing foreign bodies	5.5
Percentage of jaws showing residual areas	2.5
Percentage of jaws showing root fragment and foreign body	0.5
Total percentage of jaws showing root fragment, foreign body or residual area	37.0
Total percentage of tooth areas showing root fragment, foreign body or residual area	3.3
Total percentage of patients showing root fragment, foreign body or residual area	45.5

Rosenow, writing recently on the "Changing Concepts Concerning Oral Sepsis," states:

A careful consideration of all the facts now available indicates that a sane and comprehensive effort toward the prevention of septic foci and their cure, wherever found, will often result in the prevention and cure of chronic disease, in the alleviation of human suffering, in a better preservation of the tissues in old age, in a longer average duration of life, and in increased

mental and physical efficiency, and will, through the laws of heredity, make for a sturdier race. Since focal infection is so common in the teeth and surrounding structures, the dental profession may confidently be expected to do its full share in preventive and curative medicine of today and of tomorrow.²⁴

RECENT DEVELOPMENTS

Thus the importance of a healthy mouth which can serve all its physiological functions has been recognized. The ideal of prevention had to replace the early ideal of sheer reparation as a means of combating mouth diseases. Consequently the educational policy in the training of dentists was given intensive study and consideration. The predental preparation has been made more adequate by the introduction of one to four years of academic study in the related sciences. Longer and more comprehensive curricula are now required in most dental schools here and in other countries, similar to the developments in the allied professional fields of medicine and surgery. A demand for post-graduate study and clinics has arisen and is being met. The field is becoming specialized, and in addition to those specialties relating to the adult, those of orthodontia and pediodontia have been developed exclusively for the child. Furthermore, the spirit of research into the more remote causes of mouth disease has stimulated research effort in dental colleges. Unfortunately, the support of research in the dental field is dependent upon the contributions of organized dentists. While highly creditable to the dentist himself, we must admit the pitiful inadequacy of funds thus secured. Dentistry is virtually without philanthropic aid to establish well-organized research

²⁴ Rosenow, E. C., "Changing Concepts Concerning Oral Sepsis," *Jour. Am. Dent. Assoc.*, Vol. 14, p. 124, 1927.

along lines similar to those pursued in medicine. This is perhaps due to the fact that dentistry is a comparatively young profession, which has had to develop independent of the specialty of medicine since 1840. It is patent that there can be no far-reaching progress until such a frontal attack is made.

With the intercorrelation between dentistry and public health, the necessary affiliations have been made with the official and private welfare groups. Dental divisions have been created in the national, state, county, and community health and educational departments. Fully standardized dental services have been introduced into hospitals and other institutions as diagnostic, prophylactic, and therapeutic agents. Over four hundred industrial dental clinics have arisen since the World War.

A new agent, the dental hygienist, has been created to promote the principles, the methods, and the practice of mouth hygiene. About a dozen accredited schools, affiliated with dental colleges or dental infirmaries, have been established to train young women in dental education and prophylaxis. The dental hygienist operates in the fields of public health and education principally through the school systems, the hospitals, the settlement houses, and the child caring institutions. The work of these agents cannot be over-emphasized. They have been legalized to practice in twenty-eight States and Hawaii, in Sweden and New Zealand.

CONCLUSION

The alarming prevalence of dental diseases and the serious nature of their sequelæ demands more than mere restorative and reparative work. Prevention is necessary. True prevention can become operative only through the education of the expectant mother in matters of diet and general hygiene.

The beneficial efforts of prenatal and early postnatal care is recognized, following which the child should be placed under the systematic care of the dentist and the dental hygienist, as early as two and one-half years of age. In spite of this type of intelligent care, developmental defects are quite possible. Such defects, whether in temporary or permanent teeth, should receive early attention. The value of immunizing vulnerable areas by prophylactic fillings has been effectively shown by Hyatt's outstanding work.

To prevent a repetition of the atrocious dental situation in the present adult population, we must apply preventive methods to the child population at large. The main attack is through organized groups of school and institutional children. In the rural districts, dentistry is carried to the school child by the use of a traveling dental clinic, either with or without the dental hygienist. In larger communities the need is met by school, hospital, or health-center clinics, or, in their absence, through private agencies. In the larger cities the problem is enormous and is attacked either by (1) a comprehensive system of school clinics, as in Cleveland or Vienna, or (2) through a central dental infirmary, coöperating with school clinics or health centers. Such children's dental infirmaries or institutes have been made possible in Boston, Rochester, New York, Chicago, Providence, Honolulu, London, and Rome, through the far-sightedness of the Forsythes, Mr. Eastman, Mrs. Carter, Mr. and Mrs. Guggenheim, Mr. Rosenwald, Mrs. Montgomery Ward, Mr. Samuels, and others.

If such steps in mouth hygiene were universally applied, dental diseases could be prevented, controlled, or arrested, thus eliminating one very potential source of ill health in childhood and adult life.

A Decade of Progress in Nutrition

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IN 1920, we possessed a body of knowledge concerning nutrition which was most complete in that phase regarding the expenditure of energy by men and animals under different conditions of activity. We knew the chemical composition of the body and of numerous foods in so far as their contents of proteins, fats, carbohydrates, mineral matter, and water were concerned, and in addition, we knew much about digestion and the end-products of metabolic activity. These subjects had for many years held the attention of physiologists and biochemists, and had been supplemented during the years 1900 to 1920 by the accumulation of a new and surprising series of discoveries which began with the observations of Eijkman in 1897 which brought to light the existence of the antineuritic vitamin now known as vitamin B.

RESEARCH PRIOR TO 1920

The twenty-three years following this discovery witnessed great activity. Chemical methods revealed great differences in the composition of proteins from different sources, and experimental studies on animals resulted in the discovery that the proteins had remarkable differences in biological value as food. It was recognized that the diet must contain at least nine mineral elements—sodium, potassium, calcium, magnesium, chlorine, iodine, phosphorus, sulphur, and iron. The relation of simple goiter to deficiency of iodine was established. Vitamin A, a deficiency of which causes damage

especially to epithelial structures, including all the secreting glands, was discovered.

The fact that scurvy was due to lack of sufficient vitamin C, a heat-labile substance, became established, and the necessity for providing regularly in the diet a suitable amount of some fresh, uncooked food, either vegetables or the glandular organs of animals, for the prevention of this disease became generally appreciated. The biological method of assaying a foodstuff to determine the quality of its proteins, its mineral deficiencies, and its content of the vitamins A, B, and C, was developed, and greatly stimulated research. We also possessed a working hypothesis as to what constitutes, in chemical terms, an adequate diet. The biological assay had been applied before 1920 to a considerable list of the more important American foodstuffs, showing the remarkable differences between the nutritive value of the leaf and the seed of a plant on the one hand, and of the glandular organs, the milk, and the eggs of animals in contrast with the muscular tissues on the other.

RECENT ADVANCES

Since 1920, most remarkable advances have been made which can only be tabulated here with a few most significant comments.

Little progress has been made during the decade in the field of the proteins. Newburg and others have demonstrated the development of kidney lesions similar to nephritis in animals fed excessive amounts of proteins. They have

shown that three of the eighteen or more amino acids resulting from the digestion of proteins are especially effective in causing kidney injury when administered in large doses. In the order of their effectiveness for this purpose, they are: cystine—a sulphur-containing compound—histidine, and tyrosine. Heavy protein consumption with certain sources of proteins, may readily lead to the introduction into the blood and the tissues of amounts of these digestion products which are injurious.

It is not yet certain just how many amino acids, the digestion products of proteins, exist, but there are certainly not fewer than eighteen. These are the building units of which muscles and organs are constructed. The question as to whether every one of these must be supplied by the food proteins, or whether some of them may be synthesized by the body, has long interested biochemists. Rose and Sherwin, independently, have proven that a partial synthesis of histidine by the body is possible, and Rose has shown that arginine, although one of the more complex amino acids structurally, is not necessary in the diet. Glycocoll, the simplest of the amino acids, can be readily formed in the body, as was first shown by McCollum and Hoagland.

Studies in this direction are of great difficulty because we lack the methods for securing sufficient quantities of each of the digestion products of proteins in a state of purity, and the expense and labor entailed in their production is enormous. One of our important needs at present is a method for preparing these substances in large quantities at moderate cost. Little advance has been made in this direction during the last twenty-five years.

RICKETS AND VITAMIN D

One of the most striking discoveries of the decade relates to the production

of experimental rickets in animals, the explanation of its etiology, and the elucidation of the nature of the vitamin which is most important in preventing the disease. In 1921, McCollum, Park, Shipley, and Simmonds discovered that a diet which was high in calcium, low in phosphorus, and deficient in a vitamin now designated as D, would, when fed to young rats kept away from sunlight, cause the development of severe rickets in about three weeks. Vitamin D was discovered to exist in cod-liver oil. Sherman and Pappenheimer almost simultaneously found a diet which would produce rickets in little rats. It is with the subsequent history of vitamin D that we shall concern ourselves here.

At that time, cod-liver oil was the only known preventive or remedy for rickets; but as early as 1900, Palm had called attention to the fact that sunlight was beneficial in the treatment of rickets. Other individuals appreciated this fact, but the idea was not generally accepted as sound until, in 1919, Huldschinsky, in Germany, demonstrated clearly that sunlight could cure the disease. The World War had filled Europe with children with severe rickets, so the new remedy was widely applied.

In June, 1924, Hess reported that vegetable oils become antirachitic upon exposure to ultra-violet light. Almost simultaneously, Steenbock disclosed in a patent application that antirachitic properties could be conferred upon a wide variety of foodstuffs by irradiation. It had already become known that the antirachitic effect of cod-liver oils was associated with its sterol content. Rosenheim and Webster, in England, discovered that ergosterol, a substance found in oil of ergot, yeast, and so forth, becomes very potent as a curative agent in rickets when it is irradiated with ultra-violet rays.

Windaus received the Nobel prize for the confirmation of the discovery. Steenbock holds a patent on the process of activating foods to render them antirachitic by treatment with ultra-violet rays from artificial sources.

Ergosterol is now prepared in large quantities, mainly from yeast, and is activated by exposure to the rays of a quartz mercury lamp. The activated substance is dispensed dissolved in a vegetable oil which does not easily tend to become rancid. It is manufactured by five licensees under the Steenbock patent and is sold under the trade name of viosterol. This product is standardized upon animals made rachitic by diet and has been approved by the Council on Chemistry and Pharmacy of the American Medical Association. Ergosterol may be made many thousands of times more potent than cod-liver oil as a curative of rickets. Its physiological effectiveness may be judged by the fact that one millionth of one gram of activated material per day has cured rickets in a young rat.

Vitamin D is, therefore, the first one of the series A, B, C, D, E, and G, the chemical nature of which has become known with certainty. It appears to have been established that a diet in which sufficient vitamin A is provided by foods such as butter, leafy vegetables, and other yellow vegetables, is essentially the equivalent of the same diet plus cod-liver oil when taken with proper doses of viosterol.

The discovery of the mother substance of vitamin D and its activation by ultra-violet light makes clear the cause of the geographical distribution of rickets, which formerly was very puzzling. The disease was common in the temperate zones but rare in the tropics and almost unknown in the Far North. The Eskimo was protected by eating fats of marine animals, which contained vitamin D; the dweller in the

tropics was protected by the activation of ergosterol in his skin by the penetrating ultra-violet rays in the sunlight. There are small amounts of ergosterol in many plant products, especially the oils.

Dr. E. Luce Clausen has recently described experiments which demonstrate a remarkable stimulating effect on the growth of rats, resulting from irradiating them with infra-red rays. The effects are entirely distinct from those induced by ultra-violet rays, and suggest the physiological importance of these and possibly other rays of light.

NATURE OF VITAMIN A

The first of the fat-soluble vitamins to be discovered was vitamin A. It is especially abundant in certain animal fats, especially cod-liver oil, butter fat, the glandular fats from liver, kidney, and so forth, and egg yolk fat. All of these are more or less yellow. Steenbock made the discovery that there is no vitamin A in white vegetables, such as potato, white varieties of turnip, carrot, and corn (maize), but that yellow varieties of these foods contain the vitamin. He investigated the possibility that the principal yellow pigment of all plants, a substance known as carotin, from its abundance in carrots, might actually be the vitamin. He concluded that carotin was not vitamin A.

In recent years, much new work has been done on this subject, and Euler and his co-workers have decided that vitamin A is carotin. The most highly purified preparations are said to be capable of curing the characteristic eye condition, xerophthalmia, in rats when given in doses as small as one hundred thousandth of a gram daily. High vitamin A potency has been found in some experiments in which fats used to provide the vitamin had but little color, so it is not entirely settled that the vitamin can be identified with the yellow pigment itself.

Mendel and Underhill have for years been studying the nature of the deficiency in certain experimental diets which cause in dogs the development of a syndrome suggestive of pellagra in man. The disease is cured in a very spectacular way by feeding the dogs the purified and crystalline yellow pigment of carrots. These studies all serve to establish that the yellow color of many of the vegetable foods has more than an æsthetic value, and is, indeed, an indispensable substance in our diet.

VITAMIN A AND FERTILITY

When the diet of female rats is deficient in vitamin A, there is a characteristic disturbance in the estrus, and sterility may be induced in this way in rats which show no other signs of vitamin A deficiency. In 1922, Evans and Bishop demonstrated that there is another substance associated with certain fats which is indispensable for fertility. It has been found possible to induce normal growth and apparent well-being in female rats on a diet containing sufficient of other vitamins, including A, yet the animals are incapable of producing living second litters. They seem to have run out of something without which they are incapable of ovulating normally and of effecting implantation in the uterus of fertilized ova. The young develop until approximately half through the period of prenatal life, when they die, liquify, and are resorbed.

The death of the fetuses can be prevented by giving the mother daily a single drop of the oil of the wheat kernel, which is mostly in the germ and is commonly called wheat germ oil. Even when the oil has been converted into soap by treatment with alkali and the soap extracted with some fat solvent, the vitamin is found in a very concentrated form in the extract and is

active physiologically. This substance is called vitamin E, the fertility vitamin.

Mason has recently shown that in male rats fed a diet containing an abundance of vitamin E, sterility results within a few weeks when there is provided an inadequate amount of vitamin A. The germinal epithelium of the testes degenerates and sperm cell formation comes to an end. There is, however, apparently, a requirement of the male for vitamin E as in the female.

It should be mentioned that there are several ways of inducing sterility in experimental animals other than by deprivation of vitamins A and E. Any system of feeding which results in physical inferiority or in lowered stamina produces lowered fertility and may induce sterility, from which recovery is possible.

STERILITY DUE TO VITAMIN E DEFICIENCY

Reynolds and Macomber observed decreased fertility in rats depleted of vitamin A, and in 1922 Evans and Bishop described a characteristic disturbance of estrus in adult female rats when the diet was deficient in vitamin A. They studied the effects of deficiency of a number of nutrient principles and discovered that there exists a substance, now designated as vitamin E, which is indispensable for the mother during the development of the fetus *in utero*. When this is lacking, the ovulation may be normal, as well as the estrual cycle. Implantation of the fertilized ova may take place and the fetuses may develop until the twelfth or thirteenth day in the rat, in which the gestation period is twenty-one days. The young die at that time and are resorbed.

Macomber has studied the diets of a large number of women who were sterile and has found that the quality

of the food was sufficiently poor to account for the failure of fertility.

Vitamin E is widely distributed in vegetable foods and is associated with the fats and the oils. The oil of wheat germ is the most potent source of it, but the plant oils generally appear to contain it in moderate abundance. Lettuce and all other green vegetables supply it in amounts sufficient to meet the needs of the body. There is, however, considerable evidence that sterility in humans is not generally to be attributed to deficiency of vitamin E, but to a combination of factors, when it is referable to faulty diet.

In the male, sterility may result, as stated above, from deficiency of vitamin A as well as E, and once the germinal epithelium is degenerated, the sterility is permanent.

The vitamins A, D, and E are all fat-soluble and are, therefore, contained in certain fats. The water-soluble vitamins are B, C and G. There is a hiatus in the F position of the list owing to misinterpretation of experimental evidence, which necessitated abandoning the idea that the principle at one time designated by F actually existed.

THE ANTINEURITIC VITAMIN

There has been little progress in investigations relating to vitamin B. This is the antineuritic substance, generally accepted as at least one factor associated with the etiology of the disease beriberi, which constitutes one of the major health problems in rice-eating countries. It has been demonstrated that a deficiency of this substance causes a degeneration of certain peripheral nerves, with paralysis and atrophy of the corresponding muscles.

Smith and Hendrick, in 1926, demonstrated the existence of vitamin G, which had in all previous experiments been included in the preparations containing vitamin B. Unlike the latter,

it is very stable toward high temperatures. It is generally accepted that a deficiency of vitamin G is the cause of pellagra, a disease which afflicts large numbers of people in the South. Goldberger established the relation between deficiency of the vitamin and the development of pellagra by means of experiments on dogs and rats. A disease known as "black tongue" occurs in dogs in regions where pellagra is endemic. It appears to be the analogue of pellagra in man. Experimentally, the disease has been produced in rats.

According to the results of Goldberger's studies, yeast is the most effective food for the prevention or the treatment of pellagra, because of its high content of vitamin G. Eggs, meat, and milk, in the order named, appear to be the most valuable foods for the prevention or the cure of the disease. All investigators are agreed that pellagra is caused by faulty diet, and that improvement of the food supply is one of the most important needs of the people of the Southern states.

There have been made many studies in recent years to determine whether other water-soluble vitamins may exist in the extracts known to contain vitamins B and G. Some evidence has been exhibited which indicates that there is at least a third, and probably a fourth, vitamin in this group. It is too early to attempt to discuss the nature or the importance of these substances in nutrition.

VITAMIN C AND DENTAL HEALTH

Previous to 1920, it had been established that scurvy is caused by a deficiency of a vitamin designated by the letter C. This is found abundantly only in fresh and uncooked vegetable foods or in foods canned by a special treatment which prevents its destruc-

tion. Fresh, raw milk and eggs contain it, but there is little of it in meats other than the glandular organs. The vitamin is denatured by cooking because of its sensitivity to oxidation.

Kohman and Eddy found that destruction during cooking is due to the presence of oxygen dissolved in the juices of vegetable foods. Since fruits and vegetables as they are brought from field and garden for canning are still alive, or "surviving," they are still using oxygen in their life processes. If air is excluded from them by immersing them in dilute salt solutions for several hours before they are heated in the canning process the antiscorbutic content is preserved. The oxygen disappears from the juices before heat is applied.

The discovery of the relation of vitamin C deficiency to infantile scurvy was one of great importance. Infants had for many years developed incipient, borderline, or acute scurvy when fed upon Pasteurized or boiled milk. Since 1917, it has become almost a universal practice to give infants, daily, the juice of some fresh fruit or vegetable for the prevention of scurvy. Experience has shown that heated milks are entirely satisfactory for feeding infants, provided they are thus supplemented with a source of the antiscorbutic vitamin. As a result of the application of this new knowledge, infantile scurvy has become very rare.

Within recent years, there has been a great enthusiasm for research on the cause of the widespread occurrence of diseases of the teeth and the gums. Earlier views concerning the cause of tooth decay incriminated the bacteria of the mouth as the chief agents in causing dental caries. Many have not abandoned this view, but new viewpoints have been developed. One of the most recent of these is that undernutrition as respects vitamin C is the principal cause. It has been shown

that before clinical signs of scurvy appear, the capillaries, the odontoblasts, and the nerves in the pulp cavity of the tooth are injured to the point of death and degeneration. When the pulp in the tooth associated with the nerves deteriorates, the tooth is devitalized. Scurvy is characterized principally by damage to the capillary blood vessels, and these vessels in the gums and the attaching tissues supporting the teeth are among the first to suffer; hence it is plausible that pyorrhea, a condition in which the union of the attaching tissues with the teeth is destroyed, may be caused by damage resulting from deficiency of the antiscorbutic vitamin.

Hanke, following the suggestions in the investigations of Zilva and Wells in England and Howe and others in America, reports the successful arrest and the healing of the gum lesions in pyorrhea by feeding patients large quantities of orange and lemon juice and lettuce. Dental decay appears also to be arrested by this treatment.

VITAMIN D NECESSARY FOR TEETH

Hanke believes that deficiency of vitamin D—a deficiency which predisposes infants to rickets and adults to osteomalacia, or bone softening—has nothing to do with the etiology of either caries of the teeth or pyorrhea. It has been abundantly demonstrated, however, that rachitic children suffer from delayed dentition and that young animals made rachitic by faulty diet have teeth of poor structure, the development of both enamel and dentine being interfered with. Malposition of the teeth under these conditions is common in swine. It is hardly a defensible position to assert that those dietary deficiencies which interfere with the normal development of the skeleton have little or nothing to do with susceptibility to dental disease.

Aside from these vitamin deficiency syndromes it appears probable that the consumption of cooked and pasty starchy foods, which tend to adhere to the surface of the teeth and to become packed between them, favoring the formation of lactic acid in contact with the enamel, is an important factor in causing tooth decay.

May Mellanby has described many experiments with puppies, which demonstrate the importance of an abundance of the fat-soluble vitamins for the formation of well-calcified teeth. She has shown that exercise of the jaws is not of the first importance to the formation of sound teeth, since puppies given complete diets which were soft and pappy formed well-calcified teeth. When little vitamin D was provided, the teeth were always badly formed. She has further shown that increasing the content of cereal in a diet deficient in vitamin D results in poorer calcification of the teeth. When conditions as respects diet were maintained comparable, the diet being deficient in vitamin D, the calcification of the teeth varied greatly, according to the kind of cereal eaten. White flour as the cereal gave the best calcification, and oatmeal the worst. Rye, barley, and maize were poorer than white flour but better than oatmeal in their influence on the structure of the teeth. She interprets her studies as demonstrating that there is in cereals generally, and especially in oats, a positive factor actively interfering with the deposition of calcium salts. Body growth and tooth growth are not primarily affected. She calls this substance the anticalcifying factor.

The results described in relation to tooth development and tooth decay and pyorrhea leave little room for doubt that there is a very intimate relation between the character of the diet and the structure and the health of the

teeth and the gums. These and further investigations bid fair to show the way to great reduction in dental disease and the possibility of rearing children so as to safeguard their dentition and to make possible the following of a regimen throughout life which will minimize the prospects of caries and pyorrhea. Since a number of conditions of great gravity are often referable to focal infections arising from the teeth, these researches have a great potential value from the public health standpoint.

DIET IN RELATION TO ANÆMIAS

Whipple and Robescheit-Robbins demonstrated that there is great difference in the value of different foods for blood regeneration following anæmia due to hemorrhage. Liver and kidney are outstanding in their value for this purpose. Muscle meats and chicken gizzard stand next in efficiency. Among the fruits, apricots, peaches, prunes, and apples rank 40 as compared with liver as 100. Cereals, milk, cream, leafy vegetables, and fish are of low value.

Mitchell compared the values of a number of kinds of iron salts as sources of iron for blood regeneration in rats, and found that utilization depended only on the solubility of the compound of iron. Hart and Steenbock then made a remarkable discovery concerning the essential conditions for the utilization of iron for blood pigment formation. They induced an iron starvation anæmia in rats by feeding young animals nothing but milk. This is a nearly adequate food except for its paucity in iron. When the rats were anæmic, they were tested for their ability to assimilate different iron salts and it was found that the blood stream did not improve. They then tried the addition of such foods as lettuce, maize, or cabbage to the milk and iron diet.

With any one of these additions, iron could be assimilated and the blood improved. The ash of these vegetable foods served about as well as did the plant products themselves. Further investigations showed that the peculiar virtue of cabbage, lettuce, and maize when fed under these conditions lay in their content of copper, which occurs in them only in small amounts. The addition of a little of some soluble copper salt to the milk and iron diet proved equally successful as a diet for improvement of the blood stream in anæmia.

It had been known before that the diet must contain at least the following nine inorganic elements: sodium, potassium, calcium, magnesium, chlorine, iodine, phosphorus, sulphur and iron. With the demonstration that a little copper is indispensable for iron assimilation, we now have ten mineral elements which are known to be essential for life. The list is probably not complete. Probably the elements manganese, zinc, fluorine, silicon, and perhaps nickel and cobalt are essential for physiological well-being.

Minot demonstrated that patients with pernicious anæmia are benefited in an extraordinary degree by feeding them large amounts of liver daily. The food is not a cure and must be continued indefinitely. Liver extracts have been prepared by Cohn which possess as much as two hundred times the potency of fresh liver in restoring to normal the blood of patients with this type of anæmia. There are several liver preparations with lower potency, say fifty times that of fresh liver, which are as effective as the latter and are not so difficult to take as are large amounts of liver daily and indefinitely. The nature of the specific substance in liver which is of value in the treatment of pernicious anæmia is unknown. It has been further demonstrated that

kidney is little if any inferior to liver in the treatment of the disease, and more recently the mucosa lining the stomachs of pigs has been found to be a valuable source of the specific substance.

It appears that when stomach digestion is normal, the specific substance whose absence causes pernicious anæmia is produced by the action of the digestive juice upon certain proteins. At least, this has been demonstrated to be true of muscle proteins. Muscle meats digested artificially in the laboratory are of no value in the treatment of the disease, but meat digested in a normal stomach and then recovered by appropriate technique is capable of relieving the symptoms of pernicious anæmia. It appears that the source of the specific substance in the liver and kidneys is that which is normally formed in stomach digestion. This is absorbed into the portal blood and so passes directly into the liver, where it tends to accumulate. Some goes on into the blood and tends to remain in the kidneys.

A GOITEROGENIC DIET

A remarkable discovery was recently made by Chesney and others, who have shown that feeding excessive amounts of cabbage to rabbits causes, in two to three months, clinically detectable thyroid hyperplasia, and its continuation results in very large goiters. Boiling cabbage for thirty minutes increases its capacity to produce goiter. Steamed cabbage from which sixty per cent has been pressed out as juice is about as effective in producing goiter as whole cabbage. The substance concerned with goiter production is not lost with the juice.

These results may be restated by saying that cabbage contains a powerful goiterogenic substance, which can be destroyed by enzymes existing in the

plant, and which can be preserved when the enzymes have been destroyed by heat. It exhausts the thyroxine store of the thyroid gland, and hyperplasia follows just as it does when the body is deprived of iodine, as in those regions where this element is very scarce and endemic goiter prevails.

DIETARY STUDIES OF MILKS

Macy and her co-workers have brought to light some very important facts concerning the limiting factors in the nutritive value of milks. Two and a half to three cubic centimeters per day of mixed human milks were sufficient to provide enough vitamin A for the normal growth and health of young rats, whereas it required about ten times this amount of the same milks to provide enough of the vitamin B (antineuritic) to keep the animals normal. In experiments in which cows' milks were used, three cubic centimeters a day sufficed to provide enough A, but twenty cubic centimeters a day were necessary for B. It appears that the low content of one or more of the group of water-soluble vitamins may make these the limiting nutrients in milks. These results show that it is desirable to supplement the milk food of infants at an early age with some appropriate substance which is rich in the water-soluble vitamins.

DEFICIENCY OF MINERAL ELEMENTS IN PASTURES

In most of the stock-raising regions of the world, animals are maintained entirely on natural pastures. Studies in recent years have shown that in many places in South Africa, Australia, New Zealand, Montana, Colorado, Oregon, and elsewhere, the occurrence of malnutrition of stock is common. Theiler showed that in South Africa the cause is a deficiency of phosphorus in the soil and the vegetation. This is

likewise the case in the areas named in the United States. Aston has shown that the so-called bush sickness, a condition characterized by anæmia and emaciation, is due to deficiency of iron. In other regions, there is a deficiency of both calcium and phosphorus.

The areas in which animals show a slow rate of growth, produce low milk yield and low birth rate, and suffer high mortality making the live-stock industry unprofitable, are not localized, but widespread throughout the world. They point to a problem of the greatest gravity, which bids fair to become more serious rather than the reverse as time goes on. Take an example of an area used exclusively for pasturage year after year, in which the soil is depleted in one of the elements essential for the maintenance of health. Suppose that the grazing is good enough so that five acres will sustain an animal which in three years reaches maturity or marketable condition. The skeleton of a three-year-old steer may weigh seventy-five to a hundred pounds, and consists mostly of calcium phosphate. The soft tissues of the body are very rich in phosphorus, as well. Now, if an animal is produced every three years on such a range, it is easy to understand how, within half a century or more, the soil may be so depleted in those mineral elements in which it is poorest that further animal production on the area becomes unprofitable.

It is just such a problem that the animal industry faces in many parts of the world. Sooner or later, society must face the task of restoring the missing elements to such soils, or must cease to extract wealth from them. With the prodigal waste of phosphorus and other limiting elements in fertility of soils, through disposal of sewage into water courses, from which they find their way into the sea, any far-seeing person will reflect upon whether or not a

time is in sight when the available supply of these limiting elements in agriculture will be inadequate, even should means be found for transporting them to the vast areas where they are needed.

WHERE WE STAND NOW

There are now known six deficiency diseases due to lack of specific vitamins. There is a type of malnutrition resulting from mineral element imbalance in respect to calcium and phosphorus, which has until now been a great handicap to infants and children, but which can now be, and is being, prevented through the application of the results of animal experimentation to human nutrition. The widespread provision of iodine through the use of iodized salt is effecting a decrease in the incidence of endemic goiter, which now afflicts some millions of people whose mothers did not get sufficient iodine during pregnancy, and who were partially starved postnatally for iodine.

We possess a very valuable body of knowledge of quality in foodstuffs, secured through the application of the biological method for the analysis of a food. We have much knowledge of the combinations of foods which supplement each other and make good each other's deficiencies. The physiological

benefits of sunlight and of ultra-violet rays from artificial sources are now sufficiently understood to make this agency a valuable aid to the promotion of health. We are at the threshold of an era of marked improvement in the health of the teeth. The problems of routine feeding of infants who are not breast-fed are in great measure solved. Improved methods for the preservation of foods will henceforth make possible a much more varied and satisfactory dietary throughout the year than our parents a generation ago were able to secure. In no field of human advancement has progress been more rapid or the results more spectacular than in the nutritional field.

The researches which have placed us in such an advantageous position in the effective utilization of our food resources have, however, brought to light some very serious problems with respect to animal production. No other nation is now squandering its natural resources in soil fertility so fast as the United States. We shall need wise statesmanship to prevent us from drifting rapidly into a most serious situation as a result of soil erosion, exhaustion of pasture lands, and waste of fertilizing elements through short-sighted systems of sewage disposal.

The Federal Government in Relation to Maternity and Infancy

By GRACE ABBOTT

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TEN years ago, the bill which made possible an experiment in coöperation between the Federal and state governments in providing facilities for the education of parents in maternal and infant hygiene had been before Congress for more than two years. The movement which resulted in the passage of the so-called Sheppard-Towner Act began when the Children's Bureau was created, in 1912, to "investigate and report . . . upon all matters pertaining to the welfare of children and child life among all classes of our people," especially "infant mortality, the birth rate . . . and the diseases of children."

The investigations made by the Children's Bureau and studies made by other agencies showed that babies died when wages were low, when the home was overcrowded, when the community supply of milk or water was contaminated, and when the general sanitation of the home or the community was poor. Most important of all, however, they showed that babies died because parents did not know how to give them the scientific care needed to keep them alive, or, what is perhaps more important, to rear them in health. The problem was, therefore, primarily one of the education of parents and especially of mothers in the scientific care of their children. In other words, infant mortality was found to be an index of social, economic, and sanitary conditions, but a better index of what mothers know about the care of their children.

EDUCATIONAL ACTIVITIES

The traditional organization and services provided by state departments of health did not take into account the need of an educational program for reducing infant and maternal mortality. When the Children's Bureau was created in 1912 there was only one state which had organized for promoting the health of children by creating a child hygiene bureau in the state department of health. A few such bureaus had been organized in the health departments of some of our larger cities, but as a whole, the child health work was being done by private infant welfare and visiting nurse associations, usually only in the larger cities and without the resources necessary for carrying out the whole program.

Baby week campaigns, which the Bureau sponsored in coöperation with the General Federation of Women's Clubs, and the Children's Year program, sponsored by the Women's Committee of the Council of National Defense in an effort to prevent the lowering of the standards of child care during the war, extended to almost every county in the United States and directed public attention to the unnecessarily high death rates among mothers and babies, and to the value of the child health conference and other organized activities in saving the lives of babies.

The causes of the high death rate among mothers were, it was generally believed, responsible for the high death

rate of babies during the first month of life, so that, from more than one point of view, promotion of a maternal health program must be considered a part of a comprehensive child health program. Writing in 1921 on "The Real Risk Rate of Death to Mothers from Causes Connected with Child-birth," Dr. William Travis Howard, of Johns Hopkins, said:

Prevention and control of illness and death of mother and child are among the most neglected and potentially the most fruitful domains of American public health administration, and, of the problems concerned, the two greatest are the toxemias of pregnancy (including albuminuria and eclampsia) and puerperal fever, of which the latter is the more readily approached. . . . It is almost inconceivable that a community large or small, inhabited by people of average intelligence and of relatively great wealth, would fail to apply remedies for such glaring and wholesale women murder, as the data for the United States birth Registration Area, properly studied, disclose.¹

THE SHEPPARD-TOWNER ACT

The Sheppard-Towner Act for the promotion of the welfare and the hygiene of maternity and infancy, which became a law on November 23, 1921, was in all essentials the same as the plan for the "public protection of maternity and infancy" submitted by Miss Lathrop as Chief of the Children's Bureau in her annual report for 1917. This act authorized an annual appropriation of \$1,240,000 for a five-year period, of which not to exceed fifty thousand dollars could be expended by the Children's Bureau for administrative purposes and for the investigation of maternal and infant mortality, while the balance was to be divided among the states accepting the act as follows: five thousand dollars unmatched to

each state, and an additional five thousand dollars to each state if matched, the balance to be allotted among the several states on the basis of population, and granted if matched by an equal state appropriation.

The act intended that the plan of work should originate in the state and be carried out by the state. The legislatures of forty-five states² and the Territory of Hawaii—to which the benefits of the act were extended in 1924—accepted the terms of the act. A Federal Board of Maternity and Infant Hygiene, composed of the Chief of the Children's Bureau, the Surgeon General of the United States Public Health Service, and the United States Commissioner of Education, was given authority to approve or disapprove state plans, but the act provided that the plans must be approved by the Federal board if "reasonably appropriate and adequate to carry out its purposes."

In the Children's Bureau, the administration of the act was directly in charge of a Maternity and Infant Hygiene Division, the director of which had been a specialist in child hygiene. In addition to auditing accounts and carrying out other routine administrative details, the Bureau assisted the states by arranging for conferences of state directors, by field consultation, by the loan of bureau personnel for demonstration and survey purposes, and during the last two years, by a study of maternal mortality made in fifteen states in coöperation with the state medical associations and the state departments of health. In 1927, the authorized appropriation was extended by Congress for a two-year period, and the act was repealed as of June 30, 1929.

¹ *The American Journal of Hygiene*, Vol. 1, No. 2, pp. 230-231.

² The legislatures of Connecticut, Illinois, and Massachusetts did not accept the benefits of the act.

In reviewing the work of the Federal government in relation to maternity and infancy, the first question to be asked is, what can be said to be the results of these seven years of Federal and state coöperation? It should be stated at the outset that the results of an educational program are difficult to assess. While the plans under which the states operated differed greatly, with only a very few exceptions they were all under the necessity of acquainting the public—and particularly the women—through literature and itinerant health and prenatal conferences, with the nature of child health work and the value that permanent local child health and prenatal services would be to them. Hundreds of thousands of individual women attended these demonstration conferences and received their first scientific instruction in child care. What in addition to this great educational impetus can be said to be the benefits of the act?

EXTENSION OF FACILITIES

In the first place, there has been a great extension of state and local public resources and agencies for promoting infant and, to a less degree, maternal hygiene.

Previous to 1920, child hygiene bureaus or divisions had been established in twenty-eight states, sixteen of them in 1919, largely as a result of the Children's Year activities sponsored by the Women's Committee of the Council of National Defense and the United States Children's Bureau.

In anticipation of the passage of the Maternity and Infancy Act, nine states created child hygiene divisions or bureaus so as to be ready to receive funds and carry on the work. Ten states organized such divisions or bureaus after the passage of the act in 1922. All but one of these are functioning now.

During the period July 1, 1924 to

June 30, 1929, the states coöperating reported that, as a result of aid given through the Maternity and Infancy Act, permanent local child health, prenatal, or combined prenatal and child health consultation centers had been established as follows: Alabama 19, Arizona 10, Arkansas 14, California 89, Colorado 21, Delaware 9, Florida 35, Georgia 42, Idaho 2, Kentucky 52, Louisiana 34, Maryland 7, Michigan 30, Minnesota 8, Mississippi 8, Missouri 26, Montana 15, Nebraska 1, Nevada 1, New Hampshire 8, New Jersey 70, New Mexico 20, New York 132, North Carolina 37, North Dakota 3, Ohio 23, Oklahoma 5, Oregon 57, Pennsylvania 167, Rhode Island 7, South Carolina 11, Tennessee 29, Texas 224, Utah 133, Virginia 80, Washington 21, West Virginia 66, Wisconsin 64, and Wyoming 14; making a total of 1,594.

In states where county organization was emphasized and full-time county health units were being established, nurses and sometimes doctors were added to the staff of the county unit in order to make more effective or to demonstrate a county maternity and infancy program. For example, in Alabama the number of local nurses prior to 1922 was 36 (28 white, 8 negro); in 1926, there were 74 nurses (58 white, 16 negro). Of this number, thirty-four were paid in part by maternity and infancy funds. In many counties, the demonstration work of a maternity and infancy nurse working from the child hygiene division of the state department of health resulted in the employment of a locally supported county nurse to continue the work. For example, in Georgia, where twenty-eight county nurses were paid jointly from state and Federal funds, the state reported that twenty-one of the nurses were taken over and financed by the counties after July 1, 1929.

INCREASED APPROPRIATIONS

In addition to the increased local appropriations, making it possible to assume the support of local consultation centers and public health nurses, the state appropriations have greatly increased—at first in order to match Federal funds, and later, when the Federal funds were no longer available, in order to continue or to expand the state program. Thus, nineteen states and the Territory of Hawaii have reported that their legislatures appropriated an amount equaling or exceeding the combined state and Federal funds under the Sheppard-Towner Act. These states are: Delaware, Kentucky, Maine, Maryland, Michigan, Missouri, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Pennsylvania, Rhode Island, South Dakota, Tennessee, Vermont, Virginia, and Wisconsin. Florida, which has a special tax levy, reports that the full program carried on with Federal assistance is being continued.

It is difficult to make this list accurate. Appropriations are frequently in lump sums, and the amount available for an individual bureau or division is subject to administrative control. Moreover, a specific appropriation may, as a matter of executive policy, not be available. For example, the papers report that in North Carolina, in order to bring state expenditures within the state income, departmental appropriations will not be expended in full, and, in accordance with this policy, there will be a reduction in the authorized budget for maternity and infancy work.

Since statistics as to births and deaths are essential for planning and evaluating a maternity and infancy program, a special effort was made by the Children's Bureau and by the maternity and infant hygiene divisions in the states to improve registration.

The birth Registration Area has been expanded from thirty states in 1922, representing 72.2 per cent of the total estimated population of the United States, to forty-six states in 1929, representing 94.8 per cent of the total estimated population of the United States. This is a fundamental gain, due at least in part to the activities made possible by the Maternity and Infancy Act.

To summarize, then, at the end of the period of coöperation, births and deaths were being reported in all the states except two—South Dakota and Texas—making possible a scientific adaptation of program to need; the permanent local facilities for promoting child health had been greatly increased; many thousands of women had been educated in the practical value of this work; and a greatly increased number of doctors and nurses had become experienced state and local administrators of a child health program.

LOWERED DEATH RATES

But what about the deaths of mothers and babies? While the full value of parental education in the scientific care of children cannot be measured by lowered death rates, it is in point to ask what has been the trend in maternal and infant mortality in this and other countries for which comparable statistics are available.

The trend of the infant death rate in the United States has been downward since 1915, when the Registration Area was established, and it was to be expected that with lower rates, the annual percentage reduction would not be maintained without increasingly effective work.

Comparison of the United States rates prior to and immediately following the enactment of the act is complicated by the very high death rate in 1918, when the influenza epidemic reached its peak, and by the expanding birth and death Registration Areas in

the United States. If we omit 1918 and compare the rates for the nineteen states that were in the birth Registration Area from 1917 to 1921 with the rates for the same states from 1922 to 1928, we find that every state had a

lower rate for the latter period, the decrease varying from five to nineteen per cent. The following table shows the percentage of decrease for the urban and rural areas as well as for the states as a whole.

TABLE I—COMPARISON OF INFANT MORTALITY PRIOR TO OPERATION OF THE MATERNITY AND INFANCY ACT AND DURING ITS OPERATION IN SPECIFIED STATES;³ STATE, URBAN, AND RURAL RATES PER 1,000 LIVE BIRTHS⁴

States	State			Urban			Rural		
	1917-1921 Exclu- sive of 1918	1922-1928	Per Cent De- crease	1917-1921 Exclu- sive of 1918	1922-1928	Per Cent De- crease	1917-1921 Exclu- sive of 1918	1922-1928	Per Cent De- crease
Beginning to coöper- ate in 1922:									
California *	70.3	66.6	5	64.1	60.1	6	78.8	75.9	4
Indiana.....	79.3	66.5	16	90.5	72.9	19	72.0	61.3	15
Kentucky.....	75.5	68.8	9	90.9	82.0	10	73.0	66.0	10
Maryland.....	105.5	87.7	17	100.7	84.7	16	111.2	91.7	18
Michigan.....	86.9	73.7	15	93.3	77.8	17	79.8	68.0	15
Minnesota.....	64.8	57.2	12	67.9	57.2	16	63.2	57.2	9
New Hampshire...	94.2	78.2	17	106.0	84.2	21	81.6	71.7	12
North Carolina....	85.5	81.2	5	116.8	104.8	10	82.5	77.4	6
Ohio.....	84.7	69.5	18	89.9	71.9	20	77.8	66.0	15
Oregon *	58.3	52.5	10	59.0	48.8	17	57.8	55.0	5
Pennsylvania.....	98.9	80.5	19	98.9	80.1	19	93.8	80.8	18
Utah.....	71.2	62.4	12	69.8	59.7	14	71.8	63.9	11
Virginia.....	87.4	79.2	9	108.1	95.0	12	82.1	74.8	9
Wisconsin.....	76.4	66.0	14	88.4	69.9	21	69.2	63.1	9
Beginning to coöper- ate in 1923 or later:									
Kansas †.....	70.6	61.2	13	86.5	72.3	16	66.2	57.0	14
Maine †.....	93.4	80.8	13	96.1	86.8	10	92.4	78.1	15
New York †.....	80.6	67.3	17	81.8	67.3	18	75.3	67.5	10
Vermont **.....	86.0	71.3	17	111.7	75.7	32	81.2	70.4	13
Washington †.....	61.6	54.0	12	59.1	49.4	16	64.1	59.0	8
Not coöperating:									
Connecticut.....	86.5	69.5	20	86.1	68.2	21	88.0	75.9	14
Massachusetts.....	88.3	71.8	19	89.2	72.1	19	83.6	70.1	16

* Rates are for periods 1919-1921 and 1922-1928.

† Began to coöperate in 1927.

‡ Began to coöperate in 1923. Rates are for periods 1919-1922 and 1923-1928.

** Began to coöperate in 1925.

³ States included are those in the birth Registration Area of 1917 exclusive of Rhode Island, which was dropped from the area in 1919 and 1920, and inclusive of California and Oregon, which were admitted in 1919.

⁴ Source: U. S. Bureau of the Census.

Comparison of maternal mortality rates for the same periods in these nineteen states shows that every state had a lower maternal mortality rate during the period of operation of the Sheppard-Towner Act than during the period preceding the act. Rates for

the period of operation were from one to twenty-seven per cent lower than the rates for the earlier period. In nine states, the difference amounted to ten per cent or more, the greatest percentage decrease being in Utah and the smallest in Maine, as Table II shows.

TABLE II—COMPARISON OF MATERNAL MORTALITY PRIOR TO OPERATION OF THE MATERNITY AND INFANCY ACT AND DURING ITS OPERATION IN SPECIFIED STATES;⁵ STATE, URBAN, AND RURAL RATES PER 10,000 LIVE BIRTHS⁶

States	State			Urban			Rural		
	1917-1921 Exclu- sive of 1918	1922-1928	Per Cent In- crease or De- crease	1917-1921 Exclu- sive of 1918	1922-1928	Per Cent In- crease or De- crease	1917-1921 Exclu- sive of 1918	1922-1928	Per Cent In- crease or De- crease
Beginning to coöper- ate in 1922:									
California *	74.6	61.7	-17	83.5	65.3	-22	62.4	56.5	-9
Indiana.....	78.0	63.1	-19	94.9	78.5	-17	67.0	50.4	-25
Kentucky.....	62.6	58.5	-7	94.4	80.0	-15	57.6	53.9	-6
Maryland.....	73.3	60.5	-17	77.4	69.1	-11	68.5	49.3	-28
Michigan.....	78.3	67.0	-14	82.2	76.1	-7	73.9	54.2	-27
Minnesota.....	64.6	52.9	-18	74.5	63.7	-14	59.5	46.3	-22
New Hampshire...	70.5	67.8	-4	73.1	66.9	-8	67.8	68.7	+1
North Carolina...	86.8	79.4	-9	142.9	130.1	-9	81.4	71.1	-13
Ohio.....	74.2	66.1	-11	85.2	79.0	-7	59.8	47.3	-21
Oregon *	89.4	67.6	-24	91.3	74.3	-19	88.2	63.0	-29
Pennsylvania.....	69.7	63.5	-9	82.8	80.6	-3	56.6	46.2	-18
Utah.....	73.6	53.4	-27	97.6	71.5	-27	62.6	43.3	-31
Virginia.....	80.0	71.1	-11	117.0	107.7	-8	70.5	60.9	-14
Wisconsin.....	57.8	56.8	-2	69.5	66.0	-5	50.8	49.8	-2
Beginning to coöper- ate in 1923 or later:									
Kansas †.....	76.5	68.9	-10	96.0	95.0	-1	71.1	58.8	-17
Maine †.....	77.8	77.0	-1	98.1	108.5	+11	70.3	63.0	-10
New York †.....	63.5	58.6	-8	64.9	61.3	-6	57.7	46.5	-19
Vermont **.....	71.5	70.2	-2	78.9	107.5	+36	70.1	62.4	-11
Washington †.....	83.7	68.5	-18	92.7	77.7	-16	74.6	58.5	-22
Not coöperating:									
Connecticut.....	58.5	55.3	-5	63.9	58.8	-8	37.2	38.5	+3
Massachusetts.....	68.8	64.3	-7	72.8	67.9	-7	47.8	41.8	-13

* Rates are for periods 1919-1921 and 1922-1928.

† Began to coöperate in 1927.

‡ Began to coöperate in 1923. Rates are for periods 1919-1922 and 1923-1928.

** Began to coöperate in 1925.

⁵ States included are those in the birth Registration Area of 1917, exclusive of Rhode Island, which was dropped from the area in 1919 and 1920, and inclusive of California and Oregon, which were admitted in 1919.

⁶ Source: U. S. Bureau of the Census.

It will be noted from these tables that two states, Connecticut and Massachusetts, which did not accept the terms of the act show decreases. It is only fair to point out that in both these states the appropriations for the child hygiene divisions of the state departments of health were greatly increased because of the national and local discussion which the Maternity and Infancy Act stimulated, and that the directors of these states attended

fifty and one hundred, and one country, New Zealand, reports a rate of less than fifty per thousand live births for that year. From 1915 to 1921, five of these foreign countries and the United States showed definite downward trends in their rates as indicated by average annual percentage decreases, varying from 5.63 per cent for Austria to 1.88 per cent for the Irish Free State.

The rate of change in six foreign

TABLE III—INFANT MORTALITY RATES FOR THE UNITED STATES AND CERTAIN FOREIGN COUNTRIES, 1915-1928

Country	Deaths of Infants Under One Year of Age Per 1,000 Live Births													
	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
Austria.....	218	192	186	193	156	157	154	156	141	127	119	123*	124*	120*
Chile.....	254	241	269	255	306	263	278	240	283	266	258	251	226	170
England and Wales.....	110	91	96	97	89	80	83	77	69	75	75	70	70	65
Germany.....	168	148	155	154	121	131	134	130	132	109	105	102	97	89*
Irish Free State.....	85	81	84	80	84	78	73	69	66	72	68	74	71	68
Japan.....	160	170	173	189	170	166	168	166	163	156	142	137	142	138
New Zealand.....	50	51	48	48	45	51	48	42	44	40	40	40	39	36
Northern Ireland.....	107	89	97	101	95	94	87	77	76	85	86	85	78	78
Scotland.....	126	97	107	100	102	92	90	101	79	98	91	83	89	86
Switzerland.....	90	78	79	88	82	84	74	70	61	62	58	57	57	54
U. S. birth Registration Area (expanding).....	100	101	94	101	87	86	76	76	77	71	72	73	65	69
U. S. birth Registration Area of 1915 (exclusive of R. I.).....	100	100	96	106	89	90	79	79	79	72	74	75	64	67
Uruguay.....	111	124	107	110	101	117	107	94	104	108	115	93	106	100

* Provisional.

the conferences of directors of coöperating states and contributed to and profited by the discussion of methods of work in terms of results obtained.

Comparison of the progress made in reducing the death rates in the United States as compared with other countries is also pertinent. The infant mortality rates available for eleven foreign countries and for the United States for the years 1915-1928 are given in the above table.

Four of these countries, Chile, Japan, Austria, and Uruguay, report rates of one hundred or more per thousand live births in 1928; six foreign countries—Germany, Scotland, Northern Ireland, Irish Free State, England and Wales, and Switzerland—and the United States report rates between

countries was not statistically significant. No country showed a significant upward trend in its infant mortality rates. During the period 1922 to 1928, decreases were slightly more marked than in the earlier period. The average annual decrease in the rates varied from 6.29 per cent for Germany to 1.94 per cent in England and Wales. The rate of decrease in the expanding United States birth Registration Area amounted to 2.12 per cent.

As most of the foreign countries included a constant geographical area in their registration district, the United States birth Registration Area of 1915, exclusive of Rhode Island which was not included in the figures for 1919 and 1920, is much more suitable for comparison with foreign countries than the

United States expanding area, which included ten states in 1915 and forty-four states in 1928. In the area of 1915, exclusive of Rhode Island, the average annual percentage of decrease in the infant mortality rates was 3.49 from 1915 to 1921 and 3.08 from 1922 to 1928, the difference in the trends for the two periods being too small to be statistically significant.

ENCOURAGING ACHIEVEMENT

The United States may be encouraged by this record of achievement. It is comparatively easy to reduce high rates but much more difficult to reduce low ones. The maintenance of a practically constant rate of decrease throughout the period 1915-1928 suggests that particularly in the latter years, infant health activities initiated by the states have been wisely chosen and ably directed.

In the United States Registration Area of 1922,⁷ an area consisting of thirty states and the District of Columbia, the infant mortality rates during the period 1922-1928 show an average annual decrease of 2.44 per cent. Changes in the rates from the various types of causes are as shown below. It is encouraging to those responsible for the maternity and infancy work in

the states during the years under review that the rates from gastrointestinal conditions decreased on the average 7.67 per cent annually, and that rates from natal and prenatal causes decreased on the average 1.13 per cent annually.

MATERNAL MORTALITY RATES

Maternal mortality rates are available for eight foreign countries and the United States for the years 1915-1928. Only one country, Scotland, reports a rate for 1928 (70 per 10,000 live births) in excess of that of the United States. The rate for the United States expanding birth Registration Area was 69 and that of the area as of 1915, 61. Northern Ireland reports a rate of 52 per 10,000 live births; New Zealand, Irish Free State, Chile, and England and Wales report rates between 40 and 50. Japan reports a rate of 28, and Uruguay, the lowest, a rate of 24 per 10,000 live births.

During the period 1915-1921, neither the United States nor any of these foreign countries had sufficient change in their rates to indicate either consistent increase or decrease in maternal mortality. During the period 1922-1928 the rates of two foreign countries, Chile and Japan, had a significant downward tendency, as indicated by the average annual decrease of 7.34 and 3.58 per cent respectively, based on rates per 10,000 live births. Maternal mortality of England and Wales increased at an average annual rate of 2.32 per cent. No change is apparent in the rates of either the expanding United States birth Registration Area or of the area of 1915, exclusive of Rhode Island; but the rates for the area of 1922, exclusive of South Carolina, have shown a downward tendency, as indicated by the average annual decrease of 0.65 per cent.

Analysis of the maternal mortality rates by causes for this area of 1922

TABLE IV

Causes of Deaths	Per Cent Increase or Decrease
Total	-2.44
Natal and prenatal	-1.13
Gastrointestinal	-7.67
Respiratory	-2.21
Epidemic and communicable diseases	-3.66
External causes	+0.34
All other causes	-1.65
Unknown or ill-defined	-1.23

⁷ South Carolina failed to report births and deaths satisfactorily in 1925 and 1926 and is therefore not included.

shows that no significant change has occurred in the rates from accidents of pregnancy, other accidents of labor, or puerperal septicæmia; that rates from puerperal hemorrhage had a tendency to increase at an average annual rate of 1.07 per cent and that only puerperal albuminuria and convulsions, a cause influenced by prenatal care, showed a significant downward trend; the average annual decrease from this cause amounting to 1.93 per cent annually. The difference in the 1922 and 1928 rates from this cause means a saving of more than three hundred maternal lives in this group of thirty states in 1928, as compared with the deaths that would have occurred had 1922 rates prevailed during that year.

Both in the infant death rate, where the striking reduction was in deaths due to gastrointestinal disease, and in the maternal death rate, where the decline was in deaths due to puerperal albuminuria and convulsions, the results may be said to reflect the type of work done by the States.

The Maternity and Infancy Act can be said to have served its purpose in demonstrating the usefulness of Federal, state, and local coöperation for the education of parents in child care and in promoting interest in the whole subject of child health. In some states the work will go forward, although less rapidly, should the Federal Government adhere to the policy of withdrawal of support for maternal and infant hygiene.

ADEQUATE PROVISION NEEDED

It cannot be assumed that in the development of county-wide health services, maternity and infancy services will be provided as a matter of course. According to the senior surgeon in charge of the coöperative rural health work of the Public Health Service, county health units carry on

all salient branches of health work, such as acute communicable disease control measures, sanitation of private homes and public places, malaria prevention, tuberculosis control, goiter prevention, infant and maternity hygiene, venereal disease prevention, school hygiene, etc. Attention is expected to be concentrated upon the different branches of the work in what appears to be the most advantageous sequence.⁸

A minimum annual budget of ten thousand dollars is said by the same authority to be adequate for the approved minimum staff—one whole-time health officer, one whole-time sanitary inspector, one whole-time health nurse, and one office clerk. The health officer is usually an epidemiologist, so there is frequently no one on the staff with special training or professional interest in the problem of educating parents in maternal and child health. Under such circumstances, with the number of responsibilities quoted above, it is not surprising that the county health unit often finds the maternal and child health program something extra, which in the multiplicity of duties and responsibilities can be postponed or very inadequately provided for.

Moreover, unlike a program for the prevention of a specific disease, the supervision of the health of children is a year-round program; so that to class it as one of the "salient branches" to be carried on in "the most advantageous sequence," means serious community neglect of the health of children. Until adequate provision is made for mothers and babies, because of the fundamental need of promoting their health and because of the special organization shown by experience to be required for this work, it seems important to provide a special subsidy for it.

⁸ Reprint No. 1339 from the *Public Health Reports*, Vol. 44, No. 49, Dec. 6, 1929, p. 4.

PROPOSED LEGISLATION

Several bills have been introduced in Congress proposing to enact a measure similar to the Sheppard-Towner Act. When Congress adjourned in July, there were pending in the Senate two bills, S. 255 and S. 4738. The former with some minor changes proposed to continue the Maternity and Infancy Act of 1921, and the latter is a combination, with again some amendments, of S. 255 and the Capper Bill, S. 878, for the promotion of the health of the rural population of the United States. Bills identical with the above, H. R. 1195 and H. R. 12995 and three others, have been introduced in the House; one of them, by Representative Goodwin of Minnesota, proposes the reenactment and the extension to Porto Rico of the Sheppard-Towner Act, and especially provides for coordinating the local maternity and infancy program with the county health units where such have been developed.

There is very general support of S.

4738 and H. R. 12995 as affording a basis for the coordinated development of the county unit organization for promoting the general health and the Children's Bureau maternal and child health program. The administration of the former is given to the Public Health Service, and of the latter to the Children's Bureau, with a Federal Health Coordinating Board composed of the Surgeon General of the Public Health Service, the Chief of the Children's Bureau, and the Commissioner of Education, given authority to approve the plans in each field.

These measures will be before Committees of the House and the Senate when Congress meets in December. What they decide shall be the rôle of the Federal Government in promoting or ignoring the health of mothers and babies will not be front page news, but its importance is greater and the effect of its decision will be more far-reaching than the political measures which will be widely discussed.

Health Services for Preschool Children

By HOWARD CHILDS CARPENTER, M.D.

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THE number of children of preschool age in this country is progressively decreasing; where formerly they comprised one fifth of the total population, today only one eighth falls within this age period.

The preschool age has rightly been called the "Golden Age" of development, for in the last decade we have come to appreciate the possibilities of purposely molding this plastic material in such manner as to attain the optimal child, a child proportionally well developed both physically and mentally, and one happily adjusted to his environment.

GROWTH

During the past ten years, the physiology of growth of the preschool child has been the subject of more careful scientific study than ever before, both by clinical observation and from laboratory research. A knowledge of growth has become of fundamental importance to all those who care for and protect children; without this knowledge, such efforts must be haphazard. We have come to know growth as the "foundation stone" on which to build all work for children.

It is essential that medical schools give more definite instruction in the subject of the growth and development of normal children. The medical students' curriculum should contain an adequate number of hours for the teaching of child hygiene and the prevention of disease in young children. At last we have come to a realization of the importance of pediatrics as a basic science in medicine. An illustration of the modern trend in recognizing this

importance is the care of the newborn infant, which has been shifted from the obstetrician to the pediatricist in the leading university maternity hospitals in this country. The pediatricist has thus been given the opportunity to carry out research on the growth and development of the newborn—one of the most promising fields for medical investigation.

Mental growth, like physical growth, may be measured accurately enough at the present time to make possible a fair prediction of the child's future development. With increasing understanding of standards of growth has come a greater appreciation of the importance of continuous medical health supervision for every infant. The child's mental and physical development being so intimately related, they are no longer considered apart, and the physician specializing in pediatrics is seeing the whole child. It is safe to predict that more attention will be given each year in our medical schools to the teaching of mental hygiene to the students. Far too many medical schools are still teaching major surgery to undergraduate students. Although didactic surgery must be taught, too much valuable time is being consumed in operative surgery, leaving insufficient time for adequate instruction in mental hygiene and other subjects.

PARENTAL EDUCATION

The science of mental hygiene, while still in the turmoil of its infancy, is making rapid progress. In our present state of knowledge, it would be well if mental hygiene clinics would limit their work largely to the parents,

where the possibilities of doing harm are of much less importance; in other words, the parents, rather than the children, should be used for psychiatric research. Parental guidance clinics are needed, and we believe will supplant, in the future, the child guidance clinics. The prevention of mental disease has been very slow in getting under way; nevertheless, in the last few years, literally thousands of parents have become acutely conscious of the importance of mental hygiene, who formerly had not even heard of it.

One of the greatest problems in our social development has proved to be the subject of parental education. Parenthood has become recognized as the most difficult of all professions and yet the profession which has in the past received the least scientific study and about which the fewest scientific facts are known. It is to be hoped that the time is not far off when infant culture will be acknowledged by educational authorities as of fundamental importance in preparental education. In no other way may we expect to develop a healthy, happy, future generation.

In the last decade, the nursery school movement has enjoyed a very rapid development. The nursery schools have attempted to supply the best type of environment, good training, and parental instruction, but we believe their main justification is as clinical research laboratories to study child development. They are not helping as much as they should to keep the young child out of doors in the sunshine.

HEALTH EDUCATION

We have heard in the past a great deal about being "air-minded," but it is now more up-to-date to be "health-minded," or perhaps a better term would be "health conscious." The conservation of the race depends on commencing the teaching of health to

children in the preschool period, in addition to teaching the parents of these preschool children to be well-informed health managers of their homes. It would seem as if our homes had lagged behind other institutions in the adoption of approved measures of child hygiene. Crowded city living has become more dangerous than country living, and as a result, the urban preschool child is suffering more and more from long hours indoors due to lack of play places out of doors. He is likewise suffering from the restriction of space indoors, because of the increase of apartment dwellings. A room for itself for every child should be a minimum standard requirement for the American family.

Health education has become the chief motif of state bureaus of child health. This is disseminated through lectures, literature, and radio talks. Practical health teaching is sweeping over this country.

The Metropolitan Life Insurance Company has stated that "by educating its policy holders to disease prevention by periodic examinations and by teaching health habits to children, it has reduced its death rate twice as fast as the reduction in the general population in the last ten years."

During the decade which we are covering in this article, there can be no doubt that the most important measure for the promotion of the health and the welfare of the preschool aged child in the United States has been that great educational effort made possible when the Sheppard-Towner Act became a law on November 23, 1921, which, unfortunately for the children in this country, expired on June 30, 1929. This beneficent work was conducted in each commonwealth under the direction of its own state division of child hygiene. This law was responsible for the establishment of divisions of child

hygiene in many states where none existed, and for building up many which were inadequate. The health education work made possible by this law has resulted in the better care of babies by thousands of parents instructed in the fundamentals of child hygiene. It is to be hoped that Congress will reenact this law and take measures to provide adequate funds to carry forward this most important health education movement.

In 1926, an international investigation into the causes of infant mortality was instituted by the League of Nations, and in April, 1929, the conference of their health experts reported that in all the countries in which this study was made, two thirds of the infant deaths were associated with the prenatal and neonatal period. These experts recommended, as essential, the better training of physicians to be competent pediatricists and obstetricians, increasing hospitalization of parturient women, and more intelligent care of the newborn, especially the premature infant.

During this last decade, the health clinic for the preschool child has come into existence. The object of the health clinic has been the development of good nutrition, good posture, and good health habits. Hospitals, both general and special, have established health clinics. In these clinics, the well child should always be separated from the sick child, and such clinics should be conducted by appointment, so as to give sufficient time to make thorough health examinations. Physicians have become health teachers and have made health clinics centers for parental education. The public on its part is demanding pediatricists willing and able to teach health. The parents of the normal child are bringing it to the pediatricist twice a month for three months, once a month for the next

nine months, every two months during the second year, and then twice a year during the remainder of the preschool period.

NUTRITION

The determination of the state of nutrition of the young child is a matter which has received a considerable amount of attention. It has been shown that the methods of determining nutrition from age, height, and weight, are open to criticism as to their accuracy. It has been found fallacious to consider a child as suffering from malnutrition because he happens to be seven per cent under weight. In the past, too much emphasis has been placed on skeletal measurement. The American Child Health Association's investigation has shown that a consideration of the width and depth of the chest and the width of the hips, is more accurate than that of height in determining variation of weight. In other words, being under weight for a certain height means that the child in question has a small chest and small hips, and in order to determine the state of nutrition, measurement of calf and upper arm muscles and subcutaneous tissues over the biceps is more important.

Efforts to promote the nutrition of the preschool child have been diligently pursued. It has been realized that the amount of the protective or accessory food factors needed is relatively small, but indispensable. The young child's diet should have a high percentage of foods containing vitamins A, B, C, D, and E. Especially have we come to appreciate the necessity of sufficient vitamins B and D. So important is their early administration, that definite measures are taken to make sure that the diet of both the expectant mother and the nursing mother contains these two vitamins.

The posture of the preschool child has received continued consideration with our increasing comprehension that the child with poor body mechanics is prone to infections such as tuberculosis, nervous disorders, and poor nutrition. Routine health examinations have revealed, to our chagrin, how very common is the visceroptotic type of child with narrow thorax, prominent abdomen, dropped stomach, distended colon and weak intestinal muscles with constipation and intestinal indigestion. Posture and nutrition are closely associated, and no longer is posture considered simply a bad habit. The promotion of correct body mechanics is a fertile field in preschool child health work.

Dental hygiene is a matter which has not been overlooked by investigators, and rightly so, because dental disease is listed as the most common defect from which young children suffer. To accomplish results, it has been found absolutely necessary to begin with the very young child. The important problem in mouth hygiene is not the cure of dental defects, but their prevention. There is great need of education of the laity in this matter, as there is great misunderstanding, because too much emphasis has been placed on the cleaning of the teeth as a means of preventing dental diseases, when in reality such prevention is a matter of nutrition. Dental caries has been prevented by a daily diet for the young child containing, among other things, an orange, an egg, a green leafy vegetable, milk, butter, and cod-liver oil. Such a diet has a high content of minerals and vitamins.

In large municipalities, the dental problem as it exists today can be adequately met only by the establishment of large, central, dental clinics such as those in Boston, Massachusetts, and Rochester, New York.

PREVENTIVE MEDICINE

Medicine is making wonderful progress. The greatest change which is taking place in the medical profession is the rapid manner in which it is embracing the preventive point of view. It is interesting to note how all national health organizations dealing with the prevention of different diseases of the adult have turned their attention to the child, after finding that preventive work with the adult failed to bring results. At no time of life have such striking results been obtained in preventive medicine as in the early years of life. In fact, preventive medicine's growth has been so rapid that it has been but feebly assimilated by the average citizen. When the present knowledge of preventive medicine is more generally adopted by our citizens, it will bring about a great reduction in the infant mortality rate, and an even more striking reduction in the high morbidity rate during the early years of life.

Preventive medicine has been interested in the prevention of infections by the means of fresh air, sunlight, good ventilation, and indoor humidity and temperature control. We have come to realize the beneficial effect of sunlight out of doors for children dressed so as to expose as much as possible of their skin, with protection from extremes of temperature. It has been estimated that in a certain American city, over one thousand tons of soot are deposited on a square mile in a year. Smoke reduces the amount of sunlight twenty per cent in many towns, and causes the loss of sixty-five per cent of the ultra-violet rays. The smoke nuisance can be prevented and sunlight permitted to bring health to children. Diogenes, when asked by Alexander the Great, "Can I do anything for you?" made the wise an-

swer, "Yes, get out of my sunshine!"

Today, we have an extensive list of diseases which can be prevented if the proper measures are instituted. In this brief article I can do little more than enumerate some of the diseases of the preschool child which during the last ten years have yielded to progress in their control or prevention.

PREVENTION OF TUBERCULOSIS

During the last ten years, tuberculosis has been reduced forty per cent. A study of over five thousand infants in public institutions in New York City led the investigators to the conclusion that the likelihood of infants dying was four times greater in cases where there was in the family a patient with an active tuberculosis than in cases where there was no such patient. It has been stated over and over again that any person with open tuberculosis, living in a house where there are children, should be removed to a sanitarium. The marked reduction in the deaths from tuberculosis has been mainly due to health education. There are, of course, other factors of importance, such as improvement in the general standard of living, and the hospitalization of active and advanced cases.

Progress has been made in regard to the early recognition of tuberculosis in children. The two important means to this end are the tuberculin test and the X-ray examination of the chest. It is well understood that if much is to be accomplished, this disease must be recognized early in its latent phase; that is, before the symptoms are manifest. The great susceptibility to this infection in early life is due to the fact that immunization has not yet been acquired. Bovine tubercle bacillus infection is much more common in the first five years of life than at any other age period, because of the greater consumption of

cows' milk. It occurs most frequently in communities using raw cows' milk, and especially in counties or states having no law requiring that all dairy cattle be given the tuberculin test.

Calmette has discovered a vaccine for the prevention of tuberculosis. His vaccine, commonly called B. C. G., is one containing living bovine tubercle bacilli which have been rendered non-virulent by growing on a special culture medium for ten to fifteen years, through many transplantations. The administration of this vaccine in France to infants has brought about a tremendous reduction in the mortality among infants born of tuberculous parents. The League of Nations considered this of so much importance that a commission was appointed to investigate this vaccine. The commission reported that its use was safe, and that a conservative statement would be that at least a certain degree of protection was afforded by it. Webb, who has made a careful study of this problem, advises that the Calmette vaccine be given to all infants when one or both parents have active tuberculosis, the danger to such infants being so great that there should be little hesitation in the use of this vaccine. Calmette's vaccine has not yet been generally accepted in this country. Up to the present, the only method we have had of protecting infants of tuberculous parents from almost certain death has been to remove them from their homes. With the advent of this vaccine, it may be possible to keep the properly vaccinated infants with their families.

PREVENTION OF DIPHTHERIA

The prevention of diphtheria is a well-nigh accomplished fact. Thousands of children, and in some communities almost all the children, have been immunized against diphtheria. It

seems safe to prophesy that it will not be long before this disease will be under control, and any child permitted to develop diphtheria will be considered to have suffered through our neglect. Parents whose children develop diphtheria are certainly culpable. The prevention of diphtheria has been accomplished by the injection of toxin-antitoxin or toxoid, and both of these agents have been proved to be safe and to confer a lasting immunity. It is well known that the preschool age is the period when individuals are most susceptible to diphtheria. Infancy is therefore the most desirable time to administer this protective inoculation.

The progress made in the eradication of diphtheria is well illustrated by the experience of the City of Philadelphia in the year 1929, when there occurred only 969 cases of diphtheria. This is a remarkably small number when we appreciate that the normal expectancy of this disease is at least three thousand cases, based on the statistics of former years. This result was accomplished by an educational campaign, vigorously conducted by the City Health Department, with the coöperation of the Board of Education. The parents of every baby born in Philadelphia have been notified of the desirability of diphtheria immunization when their infant reaches six months of age.

In the first nine months of the year in 1929, the Department of Health of the City of New York immunized over 165,000 children with toxin-antitoxin, with a greater reduction in the number of deaths and in the number of cases of diphtheria during this period than during any corresponding period in the previous six years. Two million children in New York State have been immunized with toxin-antitoxin or toxoid, and throughout this country, the Federal, state, and municipal depart-

ments of health have taken active measures to control this disease. There are now several communities in this country where one hundred per cent of the children have been immunized, with the result that the disease has been eliminated.

There is a small percentage of children who are sensitized to the minute amount of horse serum which is present in the toxin-antitoxin mixture. Such children should receive toxin-antitoxin made from other animal serum. Removal of tonsils also protects against diphtheria. Approximately eighty per cent of the children who have had their tonsils removed will give a negative Shick test after a period of six months, demonstrating that they have acquired an immunity to this disease. Immunization against diphtheria is rapidly becoming universal.

PREVENTION OF VARIOUS DISEASES

One of the important discoveries which scientific medicine has made for the benefit of the children of this country is the identification of the cause of scarlet fever. It has been shown that the etiological agent in scarlet fever is a definite strain of the *Streptococcus hemolyticus*. These bacteria manufacture a soluble toxin, and this important discovery has brought about the development of a test which determines a child's susceptibility or non-susceptibility to scarlet fever. But even more important, it has been established by the use of this toxin that children who are susceptible can be successfully immunized by the administration of sterile scarlet fever toxin in five gradually increasing doses.

There can be no doubt that there is a tendency on the part of many citizens to avoid smallpox vaccination, in spite of the fact that for many years it has proved to be a most effective measure for the prevention of this devastating

disease. There has been a return of smallpox in various parts of this country where vaccination has been neglected. The most satisfactory age for smallpox vaccination is six months, as it is true that the earlier the age, the less the danger.

Scientific research has demonstrated that the virus of acute poliomyelitis is carried in the upper respiratory tract of large numbers of persons who are themselves immune, but who for awhile spread the disease. Poliomyelitis is most frequently a summer disease of colder climates, because there is, under these circumstances, a lowering of the individual's resistance. The child's ability to resist this infection has been found highest when normal functions are maintained. Convalescent blood serum has been found by a number of observers to be efficient in the treatment, if used in the early stages of this disease.

Undulant fever has increased in this country. It has been discovered to be due to the drinking of infected goats' and cows' milk. It has been prevented by the Pasteurization of milk, and the time has come when any municipality which fails to enforce effective ordinances for the proper Pasteurization of milk should be held criminally liable.

The prevention of congenital syphilis in the infant has been accomplished only through the treatment of the expectant mother by modern chemotherapy.

Prevention of respiratory diseases—colds, bronchitis, and pneumonia—is being achieved through health education in personal hygiene and home sanitation. The prevention of droplet infection and hand-to-mouth infection should be more conscientiously practiced by all honorable people.

Much has been attained in the prevention of infections of the gastro-

intestinal tract in infancy. Educational propaganda for breast feeding and for clean milk for the artificially fed infant have produced results. Municipal laws requiring the Pasteurization of milk have had a wonderful effect in reducing the incidence of these diseases. Today, most physicians prescribe boiled milk for the bottle fed baby. Unwise feeding of table food during the hot months is still too frequently a cause of "summer complaint."

Diabetes in young children is no longer an almost certainly fatal disease, since the discovery of insulin. The mortality rate has been so much reduced among children that now it is not much greater than in adult life.

Rheumatism is now recognized as a transmissible disease, and children are being isolated from any infected members of the family. Tonsils are considered the chief avenue of infection in this disease, and their removal is advised as a preventive measure for children exposed to rheumatism.

In the last ten years, more scientific study has been made of rickets than of any other disease, and we now have a fairly clear understanding of the prevention of this very common disease of infancy. We now know that it is due to a deficiency of sunlight (vitamin D), and recently there has been discovered a means of administering vitamin D in adequate amounts, in a very concentrated form. Infants should be placed in the sunlight daily and should be given a cod-liver oil which contains vitamin D. It has been demonstrated that ultra-violet light will endow certain oils and foods with anti-rachitic properties. A sterol (ergosterol) can be activated to a remarkable degree. Ergosterol is obtained from yeast and is then irradiated with ultra-violet light. When administered to the infant, it brings about a rapid increase of calcium

and phosphorus in the blood. Rickets may be prevented in breast fed infants by giving the nursing mother irradiated ergosterol. Irradiated ergosterol is effective in both the prevention and the cure of rickets. The potency of cod-liver oil has been increased by the addition to it of activated ergosterol.

RECOMMENDATIONS

Americans must wake up and solve the great problem of child conservation. In order to secure normal children, we need in this country more institutions for child study and more research on a strictly scientific basis regarding child development and the prevention of disease, and such research should be concentrated on the preschool period.

For the health of the preschool children we must secure: (1) proper care for expectant mothers; (2) parents with intelligence, who have received

preparental instruction in infant culture; (3) well-managed, healthful, home environments; and (4) adequate medical supervision. These are the essentials if we are to obtain proper development, disease prevention, and the eradication of remediable defects.

Better health work is needed, and more attention must be paid to the attainment of proper nutrition, correct posture, healthy teeth, and the promotion of physical and mental vigor. We need more instruction of the medical student in reference to the normal child. We need more health education for all parents and children.

With the great percentage of defects in the preschool period neglected and increasing, this problem is the one demanding first consideration, and it can only be solved by a concerted drive throughout the length and breadth of this country for health examinations of preschool children.

Health Insurance and Child Welfare

By I. M. RUBINOW, M.D., PH.D.

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A GROUP of social workers in a certain state, having selected the topic of child welfare as the central theme of the state conference on social work, undertook to outline a comprehensive analysis of all social conditions, problems, and remedies which a program of child welfare should cover. The result was somewhat startling, even to the members of the collaborating group. A simple analysis, which looked like a table of contents of a comprehensive work on child welfare, resulted in a pamphlet of over twenty pages. It covered the entire field of economics and applied sociology, in addition to excursions into law, medicine, psychology, and what not. Not having the pamphlet before me at this moment, I am somewhat uncertain whether or not there was any reference to the tariff but, logically, there might have been one; not only the tariff on milk bottles and nipples, but on a great many other less intimate objects of international trade.

The result should not have surprised any one, for child welfare is not an isolated problem of modern life. The children of today comprise a very substantial proportion of our population. Moreover, to make another equally trite observation, they are to be the men and women of tomorrow. Child welfare is only a somewhat artificially limited conception or a phase of the general welfare of society. Can there be any question that so comprehensive a scheme for improvement of conditions of life as health insurance would have significant influence upon the modern movement for child wel-

fare? It is perhaps inevitable but somewhat unfortunate, nevertheless, that in specializing upon individual aspects of the general movement for improvement of living conditions, we sometimes drift into the great error of considering each problem all by itself and neglecting the inherent interrelationships of all the movements.

DEFINITION OF SOCIAL INSURANCE

I am afraid that in writing on any problem of social insurance in 1930, it is first necessary to define what is meant by "social insurance." It was not so some fifteen years ago. An ardent advocate of social legislation, in a public address on "Recent Progress of Social Legislation," stated that "considerable progress has been made during the last five or six years. In fact, we are almost where we were in 1915." This was no idle *bon mot*. In 1915, health insurance—and of course social health insurance was meant—was a byword in American economic, sociological, and even popular literature. It was a sufficiently catchy phrase to be exploited by advertisers. A questionnaire issued by the writer to the members of the learned societies in 1916 elicited over a thousand responses and indicated more than ninety per cent unqualified approval of social health insurance, not only in theory but as "the next immediate step in social progress."

Ten years later, lectures on health insurance before classes at universities and schools of social service called forth quite a different response—"What is this social health insurance?" While

no control questionnaire was sent out, I am quite certain that in the early years of the last decade there would have been an almost equally general condemnation of this un-American interference with private initiative, and all the rest of it. There is a secular trend in economic theory as well as in economic conditions; but one need not lose hope that in face of these violent fluctuations, progress is still being made.

Briefly then, very briefly indeed, what is "social health insurance?" It is a fund created through regular contributions out of the wages of employees, matched usually by equal contributions from the employers, and sometimes supplemented by contributions from the public treasury. Out of this fund, benefits are granted to workers disabled because of illness. Though voluntary forms of social health insurance are known, they have proved to be so ineffective that by silent consent, the term in practice is limited to compulsory systems.

The word "compulsory" unquestionably carries with it a somewhat unpleasant implication perhaps anywhere (because of the natural resistance of the human psyche to any form of compulsion) but it is particularly strong in a country cherishing its traditions of economic individualism. But the form of compulsion involved is not one of regulation of conduct. It is only financial compulsion and may be, if one desires, compared to the compulsion of taxation.

Since most people are sufficiently healthy to be able to work, the contributors to the fund at any time are many and the beneficiaries comparatively few; which is, of course, the condition that makes the application of the insurance principle possible. The benefits payable to the sick and disabled workman vary as between one system and another, but fundamentally,

the differences are of minor importance.

A system of social health insurance provides the sick and disabled workman with the guaranteed, though modest, income considered to be sufficient to meet his own needs and those of his family during the period he is prevented from earning a living. Practically all of the systems, in addition, provide the insured with the necessary medical and surgical aid. Under the better systems, this medical provision is all-inclusive, covering medical advice, drugs, and medical appliances, dental and surgical aid, nursing service, hospitalization, convalescent homes, and preventive care.

FAMILY WELFARE INVOLVED

Originally, the benefits, both in money and in service, were limited to the person of the insured. Gradually, medical provisions were extended to cover the family as well. The obvious truth was recognized that even though illness of a member of the family (meaning primarily the wife and children, but also other dependent blood relations) did not cause any stoppage of income, it did call for extraordinary expenditures for care and treatment, and that the organized system of medical care for the insured wage workers could without much difficulty be extended to the family and thus greatly increase the usefulness of the health insurance system, both from an economic and a hygienic point of view.

In this brief outline are brought together the best standards of the various health insurance systems existing in practically all European and in many non-European countries. It is but reasonable to expect that if a health insurance system is to be introduced today, it will accept at least the best existing standards, and can improve upon them.

What then, would be the importance

of such a system in a comprehensive scheme of child welfare?

It should be quite obvious that, essentially, health insurance is a family welfare measure. Its importance is greatest in application to family life. The economic problems both of loss of earning capacity and of the cost of medical aid, are very much simpler in the case of the unattached or unmarried individual. If the insured person, being single, is nevertheless a member of a family group, the problem of loss of income is not so great, since the family group retains most of its earning capacity. If the insured is a man living alone, there are ample medical facilities already provided in public hospitals and dispensaries, where both medical aid and maintenance are furnished free at public expense. How much more catastrophic are the financial results when wife and children are depending upon the regularity of the income and such regularity stops!

Every statistical analysis of the family case agencies' clients, according to major factor of dependency, has disclosed the fact that illness, both temporary and chronic, is the most important single factor responsible for family dependency. The percentages sometimes run as high as fifty. Unemployment during the last year or two has created disturbances in the family budget, the results of which have attracted a great deal of attention, because of their unusual character. The undernourished, scantily clothed, neglected children in school almost invariably point to a disturbance in the family budget at home.

It has been estimated that, as a result of compensation legislation for industrial accidents, some \$250,000,000 per annum are paid out by American industry to injured workingmen and their families. According to Euro-

pean statistics, the problem of health quantitatively is about four or five times as important, which means that a satisfactory system of health insurance would divert perhaps a round billion dollars annually into needy workingmen's families. After all, the preservation of a normal standard of living through steadying of the wage income is perhaps the greatest child welfare measure that we can devise. One is justified, therefore, in saying that next to a general rise in wage levels, health insurance is the most important factor for improvement of family life, and therefore for furthering the welfare of the thirty or forty million children in this country.

MEDICAL AID

Of even more direct importance is the extension of the system of organized medical aid under health insurance from the insured workingman alone to his entire family. Space will not permit me to discuss the whole question of the importance of medical aid and preventive medicine in a comprehensive child welfare program. Undoubtedly, other contributors to this symposium have been asked to do so.

That organized and ample medical aid is important, requires no proof. Nor is it meant to imply that provision for medical care of children would be impossible outside of a social health insurance scheme. There is a good deal that public authority can and does do. Infant welfare stations, general health centers, compulsory vaccinations, inoculation against typhoid, diphtheria and other diseases, dental clinics, general medical inspection in schools, even prenatal and postnatal clinics—these are various ways in which either public authority through public welfare and school departments, or private philanthropy and social work have been endeavoring

to meet the health problems of American childhood.

The results of all these movements should not be minimized. Neither should they be exaggerated or used, as they frequently are, as arguments against a system of health insurance on the ground that at least the medical problems can be met and are met in a more direct way, thereby making the cumbersome health insurance organization unnecessary.

Theoretically, it would not be impossible to meet those medical problems of childhood, or of all the population for that matter, through a direct system of public medicine, call it state medicine, socialized medicine, or anything else. If an alternative choice were presented between organization of medical aid through health insurance machinery or a comprehensive state insurance medicine system, the argument in favor of the latter might be overwhelming, because of the greater simplicity of the system.

But facing realities as we find them, no such alternative is presented. Great as has been the opposition of the medical profession to health insurance, it becomes still greater when the specter of state or socialized medicine is raised. In fact, such opposition to health insurance, either in this country or abroad, is frequently due to identification of such a system with straight state medicine—an identification which is inaccurate and based upon ignorance, but nevertheless is deeply ingrained in the mind of the average physician.

All the above-mentioned measures for improvement of the health conditions of our childhood, important as they are, are only very timid steps in the right direction. Because they are free, they must face the criticism of pauperization. Because they compete with private practice of medicine, they

provoke the opposition of the entire medical profession. Because they call for expenditures of public money, they face the opposition of the taxpayer. The inadequacy of appropriations for such purposes in American cities, with very few exceptions, is proverbial. Concessions are invariably made to the sacred traditions of private medical practice by limiting functions of public medicine to examination, sometimes diagnosis, occasionally preventive work. One public welfare department after another, one health department after another, in timidly introducing some measures for improvement of the health conditions of the children, hastens to assure the profession that nothing will be done to disturb the holy relationships between the private physician and the private patient. Children are examined, defects are carefully marked on cards, and the parents are notified and urged to apply to the family physicians, without any too careful inquiry as to whether the financial status of the family will make that advice practical.

Very different is the situation in European countries with well-organized systems of health insurance, where all the necessary medical aid can be furnished to the children of the insured because the insurance organizations have created facilities for that very purpose. How many children, above the dependency class, remain with their teeth or tonsils or eyes or "innards" unattended to, because medical aid is expensive? How much of the sale of the various "golden medical discoveries," amounting to hundreds of millions of dollars, is due to the fact that a bottle of medicine is cheaper than a doctor's prescription? So long as the specter of a medical bill stands between the physician and the patient, just so long will the ninety per cent of our population (which also means, of

course, ninety per cent of our children) whose family income is below two thousand dollars a year, fail to receive all the medical advice and care which they need.

PSYCHOLOGICAL EFFECTS

If the economic and medical advantages of a health insurance system for the entire family and, therefore, for the children are important, the psychological effects are perhaps none the less important, even though not quite so obvious.

A potent psychological and spiritual argument for the whole program of social insurance, equally applicable to all its subdivisions, is that it substitutes a legal claim for an appeal for help, that it substitutes a legal duty for the sentimental obligation to give charity, that it frees at least the wage worker and his family from the misfortune of becoming a beneficiary of a philanthropic agency.

There has been a great deal of perhaps praiseworthy sentimentality about this. New words are constantly being used to disguise old concepts. Insane asylums have become state hospitals, reformatories have become industrial farms, charity and philanthropy have become social work, relief has become incidental, and adjustment of personality the fundamental. The name of the National and State Conferences has been changed. The American Association of Charity Organization Societies has made its official designation shorter and more euphonious.

All of these are very desirable steps in the right direction, but not sufficiently potent to disguise the underlying reality. The vast majority of "clients" of all social agencies are still members of the economically underprivileged class. They are driven to become clients very largely by economic considerations, no matter how many

other complicating factors there may be. If all the families under care of family agencies do not receive material aid, most of them expect it. Every case worker admits that no matter how expert she may be in her case working methods, the specter of relief, actual or possible, stands between her and her client. Perhaps the most pitiful, though inevitable, result of this contact is the habit it develops in the children of the family to beg the case worker for things that they need. The relationship between the agency and the client cannot be kept secret from the children, no matter how carefully it may be disguised. As a matter of fact, it seldom can be kept secret from the neighborhood.

What must be the psychological effect, for instance, of a method of distributing free lunches in schools of a certain large city, but limited to those children whose parents are out of work? During periods of unemployment, we grow somewhat callous. We accept the inevitable. The milk and crackers are more important than the psychological danger to the children's ego—and perhaps they are. But even in normal times, thousands over thousands of children are growing used not only to receiving "charity" but to asking for it.

In May, 1930, according to the reports of Dr. Ralph Hurlin of the Russell Sage Foundation, nearly 92,000 families were under the care of fifty-eight societies in forty-seven cities. During that one month, nearly 7,500 families made applications for relief. Just what is the psychological effect upon the personality of a child? It is not only a question of pauperization, which we hear so often brought up when the European systems of social insurance are discussed; it is the question of invidious distinctions that are inevitably drawn among children them-

selves as to families "getting their things from a society." Neither the German workingman nor his family can possibly experience the same reaction when they draw their benefits or get their medical aid from their health insurance fund of which they and their neighbors all are members, and to which they and their neighbors all regularly contribute.

What a useful field of psychological inquiry opens there! But it should not be limited to students and observers, to the social workers, nor even to the adults in "families under care." If it were only possible to have questionnaires filled out by the little urchin on the street who sports a new suit and is asked by his playmates, "Did the lady from the society give it to you?"!

A BENEFIT TO CHILDREN

To sum up, on economic, medical, psychological, and ethical grounds, a comprehensive, scientifically devised, and efficiently administered system of social health insurance would be perhaps the greatest factor in improvement of conditions of child life in this country.

It is not a panacea. It should not be offered as such. Technical conditions of social insurance make it almost inapplicable except to the wage-working population. Economic need and distress and all the other needs that go with it are not limited to the wage-working population. But after all, no social constructive measure is expected to meet the problem up to one hundred per cent. Among the many arguments which have destroyed the health insurance movement in this country, at

least for the time being, many were selfish, some were based upon ignorance; but no others were so dishonest as the arguments based upon evidence of fields left uncovered because to them the method of health insurance was inapplicable.

Health insurance or all of social insurance has not entirely eliminated the need for private or public philanthropy in any European country, but there can be no doubt that it has reduced it. In this country, compensation legislation has relieved private philanthropic agencies of hundreds of thousands of cases where distress was due to industrial accident. Statistics of illness as compared with statistics of accidents leave no doubt that social health insurance can accomplish four times as much; and what it accomplishes for the sick workingman, it accomplishes for his family and primarily for the children.

We of the older generation may still find some difficulty in adjusting ourselves to the new generation with their unconscious freedom from restraint of flannel petticoats and corsets. Might not we accomplish as much by raising a new generation who would be free from the psychiatric restraints and inhibitions and complexes induced by the experience of being recipients of private charity? Perhaps even "the lady from the society" might feel a good deal less inhibition in her efforts for personality adjustment if she came to the family, figuratively speaking, without a pocketbook—if she came only as a trained worker and not as a distributor of good things to be had for the asking.

Public Health Nursing and Child Care in the United States

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IN the last decade, certain things have been attempted in public health nursing in relation to child care, and certain apparently significant things have happened.

In the early years of the twentieth century, when preventive medicine and socially minded people united to put forward programs which would improve health conditions in the United States, they found district or visiting nursing associations already at work and giving excellent care to the child who was ill at home and who needed such care. Indeed, in many instances, these associations had seen the need for preventive work and had offered the services of nurses from their staffs to begin work in this field. A notable example of this was the service given to the schools of New York City by the Henry Street Visiting Nursing Association, which was the beginning of school health work in that city.

In all such experiments, it was found that the nurse played a valuable part, and as programs for school health, for the prevention of tuberculosis, and for infant welfare came to be developed in different parts of the country, the nurse was always made a part of the service; often she was the director of the service, and the entire staff was made up of nurses. Programs, of course, were planned with the advice of a medical committee, and the service was put forward in every instance by utilizing the medical and social resources which were already a part of the community.

SPECIAL EDUCATION REQUIRED

These nurses doing public health work soon began to appreciate that the education they had received in the hospital schools for nursing was inadequate in so far as instruction in methods of disease prevention and in building health was concerned, and they, therefore, began to stimulate interest in the development of public health nursing courses in universities and colleges. Such courses required an affiliation with public health nursing agencies, so that the student while taking theoretical courses might have actual experience in the field of public health nursing under direction. This type of education had already been worked out in social work, so that the method was easily transferred to public health nursing.

Before 1920, a very few places were making a beginning in this form of education, with courses which covered a period of three to four months. Since that time, however, there has been a real development, until now there is some educational institution of college grade in every section of the United States which gives such a course. These courses now run through an academic year, and it is required that the student in public health nursing matriculate as a regular student, and, as a prerequisite, that she be graduated from an accredited school of nursing, and that she be registered as a nurse. The courses vary a little in different parts of the country, but all

include theory and practice in the various phases of child care.

Every well-regulated public health nursing agency now requires that a staff nurse in beginning her service with the agency either have an introductory course given by the agency itself or that she have a certificate from such a course. This preparation, with its introduction to methods in teaching health, has given the public health nurse an important place in the child health program, for she is now an interpreter of scientific health knowledge to the family of the child.

Because of her intimate relationship with the parent in the home, the public health nurse has an opportunity to carry the information on building and maintaining health which comes from scientific research, and because of her relationship to medical practice, she forms the connecting link between the parent and the child in the home, and the family physician, the hospital or the clinic, the teacher in the school, the school physician, and the health officer. In a pamphlet published about the beginning of this decade, Dr. C. E. A. Winslow, discussing infant welfare, said:

Above all, it is the public health nurse who follows the case into the home and there on the spot, with the utensils and the conditions which the mother has at her disposal she teaches the principles of the care of the baby in the most effective way. She is the final link in the chain which connects the scientific investigator in his laboratory with the child he is working to save. She is the messenger who brings the last word of science to the place where it really must be applied if our knowledge is to be effective.

RURAL SERVICE

Before 1920, very little had been done in the way of well organized health service in rural communities. Through the efforts of state tuberculosis associations, laws had been passed

in some states which made it permissible for counties to employ public health nurses and to pay the salaries out of public funds. Gradually such nurses were employed, often after the value of such service had been demonstrated by a public health nurse employed by the tuberculosis association or by the local chapter of the American Red Cross.

The passage of the Sheppard-Towner Act gave much impetus to this movement in the rural districts. It is significant that there has been a large number of well-educated nurses who have been willing to take these positions at comparatively small salaries and frequently in remote communities. At the time rural public health nursing began, there were few full-time county health officers; but with the stimulation given the movement for county health units by the United States Public Health Service and by state departments of health, the rural nurse in many places is no longer working alone, but is a part of the larger health service made possible by these county units. However, as these units have almost always developed in counties where a public health nurse was the first worker, it would appear that she has had a real part in furthering the movement for this more complete form of health organization.

In many state health departments, there is now an advisory nurse, or a bureau of public health nursing which acts in an advisory capacity for the public health nurses in the state, and which frequently passes upon the qualifications of the nurses employed in that state.

It will be seen, again, that in the rural communities the public health nurse acts as a *liaison* officer. She is the interpreter between the health officer, the physician, the county school superintendent, the teacher, and the

home. She finds the child with a deformity or a suspected disease, and makes the connection between the family physician and the home. As one physician in a rural community said, "I knew James had scabies, but I couldn't go out and bring him into my office. The public health nurse, however, could and did."

Again, Bobbie had a club foot. The teachers raised a fund to have him treated, but his father was too proud to accept it. The public health nurse, through her intimate contact with the home, father, mother, and Bobbie, and through her professional relationship with the family physician, found a way which became the plan of Bobbie's father to have the foot straightened. Now Bobbie, whose father is no longer living, faces the world without a physical handicap. Such illustrations might be multiplied, if necessary, to show the coördination of known resources which the well-prepared public health nurse employs in any service.

MATERNAL MORTALITY

One of the conditions in the United States which causes concern is the high maternal mortality which prevails, and which brings this country far down in the list of nations in this respect. In New York City, the Maternity Center Association has been putting forward a program for maternity care which is essentially a public health nursing program. There is an advisory committee of medical experts, and the actual prenatal and obstetrical care is given by the family physician. That this service has been effective is well brought out by the following quotation which is taken from a recent statistical bulletin of the Metropolitan Life Insurance Company.

The lives of two out of every three American women who die each year during preg-

nancy in child-birth or shortly after child-birth could be saved if these women received proper medical and nursing care of the kind given by the Maternity Center Association of New York City, and by other public health organizations concerned with this problem. As more than 15,000 women die in the United States every year from the various diseases of the maternal state, this means that more than 10,000 of these deaths are preventable.

This is the conclusion of the study made by the Metropolitan Life Insurance Company of the records of 4,726 women who received the care of the above association in New York City. Only eleven of these mothers died from diseases which arose directly out of the maternal state. This is equivalent to a maternal mortality rate of only 2.2 per one thousand live births. In New York City at large the maternal mortality rate was 5.3 per one thousand, and among them in the Bellevue Yorkville area of the city in which the Association is located, the maternal mortality rate among women who did not receive care from this association was 6.6 per one thousand. In other words, through proper medical and nursing care, the mortality from maternal causes was reduced to one third of the expected figure. A way has clearly been found to remove the disgrace from which America has suffered, in the high mortality of women from maternal causes. Approved prenatal and obstetrical care can readily be extended to the women of America with most beneficial results.

Again, it is seen that the public health nurse is the connecting link between the prenatal mother and her physician, carrying the message which comes to her from those who are highly skilled in this special field of medicine.

THE PRESCHOOL CHILD

Before 1920, there were public health nurses in schools, others going into homes for infant welfare, and visiting nurses taking care of sick children of all ages; but for the child between two and six, the runabout age, there

was no one who seemed to have much concern.

School health services in their beginning were almost entirely given over to the detection and the prevention of contagion; but as this service resulted in lessening the incidence of contagion, the nurse and the physician began to make careful physical examination of the children, often finding defects which might have been avoided if earlier attention had been given, and which most certainly should have been corrected before the children entered school. The logical result was that both school and infant welfare groups added the preschool child to their responsibility, and public health nurses began to inform themselves upon those scientific principles which have special reference to this group.

About the same time, the National Educational Association, in considering educational objectives, went on record as believing that health should head the list. At the same time, in many places emphasis was given to the teaching of health in the classroom.

With this development, the wise public health nurse stood by to give all the help possible, and often when the program was effectively carried forward, she found that she needed only to be adviser in the school. Therefore more of her time was released for an intensive program for adult education in the home, so that the parents as well as their children might have such scientific knowledge in regard to health protection and promotion that the children might be sent to school without physical handicap.

Again, the public health nurse interprets the home to the school and the school to the home, and to both the home and the school she brings a knowledge of the community medical and social resources which may be useful to each.

GENERALIZED EFFORT

As public health nursing has been finding itself in many phases of health service, first specializing in one field and working with medical specialists in that field, the public health nurse has become conscious of the relation of these different special services to each other. Thus, she has been ready to coöperate with medical and lay groups who have been endeavoring better to coördinate their efforts, so that there may be continuous health service from the prenatal period through school life, or, more properly, from one generation to the next.

Therefore, in all parts of the United States, there are generalized public health nursing services which concern themselves with the health of the entire family. Even in the specialized child health organization, there is now an appreciation of the fact that the health of the adult affects the health of the child. Tuberculosis and venereal diseases are a menace; therefore, the work of nurses in these fields and also in that of industry is, when analyzed, a contribution to child health.

There is one health field in which the public health nurse has not been conspicuous, and that is the field of mental health. Until recently, she has not, except in rare cases, been prepared to make any contribution to a mental hygiene service.

A beginning has now been made in some public health nursing organizations to use the nurse in this field. This is done first by giving special courses on different phases of mental health to the staff nurse, and then by employing a specially trained psychiatric worker as a supervisor on the staff, to give advice and help in problems which have mental aspects, which come to the nurse in her work with the families in her district, just as these

associations employ supervisors for infant welfare, tuberculosis, prenatal, and other special services.

It would appear, therefore, that before very long, the public health nurse, because of her intimate relation with the family, may be utilized in this mental health field as she has been utilized in the physical health field.

THE INTERPRETER OF SCIENCE TO PARENTS

The public health nurse always makes her contribution in a supplementary capacity. In the very nature of her preparation and her service, she is not a specialist, unless she becomes one because of her ability to interpret the message of the scientist and the medical practitioner in the simple terms which may be understood by the humblest parent. She must know, if she is effec-

tive, all the social and medical resources of the community in which she works, and be able to fit her service into other services so that it becomes possible for the individual child to develop to his potential physical and mental capacity.

In the newer practice of public health, which is based upon education and not coercion, it would seem that the public health nurse will continue to be an important agent. She doubtless will, if she prepares herself adequately to meet the obligation placed upon her—an obligation to understand the message which comes to her from scientific research and to attain the art of imparting her message to the fathers and the mothers of the children who now are and also to those of the children yet to be. To the public health nurse of this time, there has been given a responsibility as well as an opportunity.

A Changing Psychology in Child Welfare

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BECAUSE the psychological implications of attitude and practice in the field of child welfare are clearer and more nearly conscious in case-working agencies than in group or institutional movements, this paper will confine itself largely to the writer's own experience during the past decade in observing and helping to create and express the changing viewpoints of a child placing agency, which have reflected to a large extent the general trend of thought in work with children as it has developed since 1919 under the influence of psychology, psychiatry, and mental hygiene.

VAGUE PSYCHOLOGICAL BASIS

It is difficult to trace or lift out the disconnected fragments of theory which underlie overt practice at any one period, since case workers have never been very articulate about the psychology on which they operate. Rather, the theoretical formulation has come from psychologists and psychiatrists closely associated with social case work, and has then been carried over into case-work technique and attitude, more or less unconsciously. Rarely does a social case worker adopt a complete, well-rounded psychology on which to base her work with human beings. Rather, she tends to pick up a dynamic concept here or there which profoundly affects her whole relation to her job. She goes ahead on the impetus of her new insight until it wanes, until fresh problems arise or a different experience is undergone, and then other hypotheses are sought to broaden or alter her basic approach.

Until the advent of the child guidance clinic and the psychiatric social worker, there was little pretense to a formal psychology; and even now it is seldom overtly presented by the case worker, apart from concrete problems. Yet, one of the most significant changes in case work since the war has been the gradual acceptance of the psychological, or, if you please, the psychiatric, basis for every kind of case work. Whether or not case work has an adequate conscious psychology, it recognizes its task as fundamentally psychological, and is earnestly seeking to understand not only the client, the child, the patient, but the case worker, the parent, the foster parent, the teacher, the various adults who form part of any particular case-work situation.

MEANING OF PHYSICAL SYMPTOMS

In 1918, in the child placing agency with which the writer is associated, medical care was still precarious and at the mercy of poor organization. The child was completely lost sight of while the case worker and the doctor struggled valiantly but inefficiently to conquer his physical problems. That the sudden introduction to a complete physical examination, blood tests, circumcisions, taking out of tonsils and adenoids, tooth pulling, drops in the eyes, glasses, braces, special shoes, and what not, might have profound psychological significance for the child, for future work with him, for his attitude toward the worker and the agency, might have been admitted intellectually if any one had brought it up; but

actually, the sense of what such aspects of care meant in the case of any particular child, or might mean generally, was not part of the agency's habit of mind.

In 1918, masturbation was a problem for the censor or the medical examiner, who was usually so impressed with his obligation to stop the child's sinning that he used his medical authority as a weapon to enforce reform. One can find old records in which a hospital doctor threatens an operation unless the child can cure himself—a real castration threat. A good deal of theory has flowed under the bridge since then, but the case worker of today still has difficulty in convincing some physicians that masturbation is usually a case-work problem and can be understood only psychologically.

While the average children's agency still takes children to the medical clinic for enuresis, it is with the knowledge that if the treatment prescribed is effective, it is so largely because it helps the foster parents and perhaps gives confidence to the child; but on the contrary, as the worker knows only too well, it may have just the opposite result, by keeping before the child and the parent the importance of a habit which needs to be ignored. The case worker of 1918 believed in the medical treatment where punishment failed; the case worker of 1930 knows that enuresis, except in rare cases where there is a definite physical cause, is a part of the child's adjustment in his actual present situation, and cannot be reached without an understanding of the psychological factors involved, for the adults as well as for the child himself.

What is true for enuresis holds for all such habits as soiling, thumbsucking, resistance to food, and the like, which once were brought to the physician for cure on a physical level but now are

recognized as functions of a social and psychological situation, in which the child is trying to find himself. Moreover, the children's worker of 1930 understands, as never before, the psychological value of any illness to the child, and the possibilities of its unconscious use by foster parents and physician to reënforce undesirable relationships and emphasize tendencies which are already overbalanced in the child. That this sometimes makes it difficult for the case worker to adjust her picture to the medical necessity goes without saying, but gradually physicians themselves are coming to some appreciation of the psychological meaning and utilization of illness, and the part played by fear, guilt, resistance, and regression in all medical problems.

BEHAVIOR PROBLEMS

In 1918, children placed in foster homes by the agency in question were understood almost entirely in behavioristic terms. We were all, by nature and necessity, Watsonian behaviorists. We saw only what the child did. If what he did was acceptable to foster parents and community, we heaved a sigh of relief; good children were never conceivably in need of understanding. If he stood out in the foster home as too peculiar, too different, we took him to the neurologist; if he was actively disturbing and antisocial, we joined with the foster parents in devising punishments and correctives, or we sided with the child against the foster parents and got him a new home, where he would get better treatment. The child whom no punishment cured and no foster parent would endure, ended in some institution.

But already in 1918, psychology and psychiatry were upon us; the lump had been leavened, and there was no escape. The influences were apparent at first in the growing consciousness of a

need to control processes, and in the belief that such control could be attained only through the discovery of causal connections. If we could find what caused the behavior which was so destructive, perhaps we might do something about it—perhaps we could learn to know in advance whether or not a given placement would be successful, or how to alter habits which the parents could not endure and punishment failed to correct.

Heredity offered the first clue, and we have the eugenics field worker to thank for our beginning interest in a history of the child's family background. We became unpleasantly conscious of the possibilities for disaster in the feeble-minded ancestry or the psychotic family tree. We were eager to find the cause of stealing, or sex interest, in the similar tendencies of parents, siblings, or relatives further removed; but this proved too sterile a solution.

For the case worker whose interest is therapy and not theory, and who lives to see a child successfully placed in a foster home, the uselessness of heredity to do anything but explain and excuse, its finality for the unhappy child who happens to have a bad history, and the impossibility of utilizing it in a constructive treatment process, soon led to the abandonment of that trail. However, the emphasis on constitutional factors was not without its reward for the child placing agency, for soon afterwards came the psychometric test as a diagnostic agent, more reliable than the uncertain family tree, and promising some immediate practical estimate of the kind of child to be placed, at least in so far as his native mental equipment was concerned.

The history of the use of mental tests by the child placing agency would furnish an interesting revelation of psychological trends in case work. At

first it was thought of as a weapon against the child—something by which he would be condemned. With the behavior problem, it became something definite to cling to—one practical tool which could be utilized by the despairing worker. Perhaps the mental examination would somehow alter the picture. Finally, it was realized as an instrument for truer understanding—a protection for every child if properly used.

THE PSYCHOMETRIC TEST

Thus the psychometric test, whose apparent definiteness is its vice as well as its virtue, has helped in many ways to alter the attitude of the children's agency towards its job. Because it made possible one fairly simple and apparently reliable classification of the child to be placed, it challenged the right of any agency to place a child whose mental equipment was only guessed at. Emphasis was slowly but surely shifted from the examination of the child who had become a problem in placement to the examination of every child previous to placement.

The failure of the psychometric test to solve the whole problem of behavior rapidly led to a discrimination between the emotional and the intellectual factors, between innate ability and adjustment, and thus, for the first time, to the comprehension of child placing as a psychological as well as a practical problem, in which there is no short cut, no possible avoidance of the effort to understand personality in its emotional and impulsive aspects.

It is interesting to note the two general directions in which our necessity to understand has led us—the one towards the search for causal connections, no longer in heredity, but in genetic developmental history and immediate family relationships; the other towards the describing, the measuring, the

gauging, the seeing of the child as he is presented to us at the moment.

The belief that the facts of a social and developmental history were important, and somehow held curative powers, has been with us from the first. For a long time we accumulated elaborate statements of facts which gave us comfort but which we sometimes confessed to ourselves seemed of very little practical significance. In the early years, we were often at a loss as to what to do with the information about the kind of birth, nursing, nutritional, and toilet habit experiences which we insisted should be included in the social history of the child presented for a child study examination, and because it helped so little, we concentrated on the effort to extract from first-hand contact with the child in test and interview, every atom of reality, of insight, of therapeutic effect that could be obtained.

This was the period when fragments of Freudian psychology were filtering through to case work. We had become aware that sex was somehow at the bottom of many difficulties; that there were such things as complexes, repressions, mental conflicts; that childhood experiences and family relationships continued to influence; that behavior was not always what it seemed, but might be expressing an internal reality quite different in nature, compensating for deprivation or inferiority or fear.

EFFORTS TO DETERMINE CAUSES

While the case worker pursued history and environmental pictures in her search for causes which could be utilized in treatment, the clinical psychologist and the psychologist working with children bent all their efforts upon getting at causality within the child—in unearthing, exposing, uprooting, the evil content which was re-

sulting in bad behavior or unhappiness.

The pressure which our necessity to cure put upon the problem child, however kindly our intentions, was undeniable. He had to have sex instruction whether he needed it or not; he had to talk about his temptations, his sins, his motives, his fears, his feelings about his father and mother or brothers and sisters, not for his own sake but for ours. It was in very truth a digging process, in which our passion to understand and help, rather than the child's need at the moment, was primary.

The therapeutic inadequacy of this process and the slight value of the information thus extracted were realized at times, but this was better than no attempt to know the child himself, and was sought by the case worker partly as an escape from trying to understand her own material directly. There is no doubt that we were better than our technique and our conscious theory, and that, in spite of this welter of questioning, moralizing, sex instruction, testing, and reassuring, some children got genuine help from the experience; something in the relation of child to examiner was releasing and therapeutic.

However, there was little conscious control of the therapeutic elements, no sure recognition of what constituted the therapeutic effect when it occurred, and the practical impossibility of relying upon such slight contacts to reëducate a child who lived in a particular social situation, exposed to all the effects of family relationships and dependent for his happiness on his successful adjustment to his home, his neighborhood, and his school, was evident. The therapeutic interview was not comprehensive enough nor effective enough to solve, unaided, the problem of understanding the child to be placed or of correcting his difficulties in placement.

SOLUTION RESTS WITH CASE WORKER

As the limitations of this tool were realized, the case worker's responsibility for the solution of the problem of the child in the foster home became more and more apparent. It was not possible for any office examiner to do her thinking for her; the psychological insight which could explain the child or help him to make a social adjustment had to be hers in as full measure as her capacity permitted.

During the period of emphasis on the office interview and the psychometric test, there had been pressure on the case worker for more elaborate histories, whose use was somewhat uncertain, and also for more and more vivid and accurate descriptions of the child in his immediate setting. Records were transformed from brief, one-page accounts of a child's background, and single paragraphs of dictation testifying to a visit by the worker on a certain date, and reporting, often for the tenth time, that the child's eyes were still a lovely blue and that his disposition was as charming as ever, to a social history containing the story of the father and the mother, accounts of grandparents, uncles, and aunts, as well as attempts to give the developmental history of the child and his behavior in detail, and current dictation with a real description of what the worker saw of the living, present situation when she visited.

The concepts which had dynamic significance at this stage were sex guilt, deprivation, and inferiority. We thought of the child's behavior chiefly as an effort to compensate for something. His direct sex habits or sexual interests expressed indirectly in stealing as the choice of a lesser evil, were somehow believed to be the result of ignorance, prejudice, and fear regarding sex in the adults with whom the

child had associated. The child could not be held responsible, and could be helped by sex instruction and by contact with an adult who had a natural, accepting, fearless attitude towards sex. The child was perceived to have accumulated unnecessary guilt. He believed his own behavior to be bad. If the overt behavior was stealing, it had to be traced back to a sex root and this would then remove the necessity to steal, because the sex aspects could come out directly.

The next step was somehow to absolve the child from sex guilt. Apparently unconsciously, we believed that sex in itself was not what the child sought, but a way to be bad. If he could make his peace with some parent substitute and be accepted in all his sins, he would cease to be so interested in sinning. There was more good psychology in this than we realized, but certainly it was never logically or overtly worked out.

EMPHASIS ON THE FOSTER HOME

Another way of looking at sex habits, or any of the infantile habits associated with mouth, genitals, and excretory organs, was to think of them as satisfactions obtained by the child to compensate for deprivation in his love life. It was easy enough to find in the history of any dependent child, sufficient cause in deprivation for any number of autoerotic habits.

This point of view led directly away from office treatment to the foster home. No one in an office could provide love, but perhaps the foster family could. Quickly we began to hunt for this elusive necessity, to obtain love for a child who was so unlovable in every attitude. We also began to interpret the development by the child of an undesirable habit in a particular home as an indication that he was not getting the love he needed—

that something was forcing him to a new compensatory indulgence.

Across this libidinal picture was thrown the shadow of the inferiority complex and the causal explanation for all kinds of behavior as attempts to put the ego across, to make up for failure, to get attention somehow. This was a popular concept for the case worker because it seemed so simple, so plausible, and so much more accessible to treatment. It is always possible to work out some form of success for a child. The teacher understands inferiority. She is willing to set up a task in which the problem child can succeed. Praise and blame are concrete, definite, and under control—not like loving to order. To praise a little more and blame a little less are simple and possible. Favoritism, rivalry, and jealousy, in their effect on self-esteem, are not so difficult for foster parents to comprehend as an indefinable hunger which expresses itself in an unpleasant soiling habit. Attention-getting mechanisms are easy to explain and can be met with indifference if the child in question does not happen to be our own. In fact, it is but a short step to the use of inferiority, or attention-getting as a compensation for inferiority, to account for almost any symptom.

Despite this confusion of theory and practice, children were helped; transformations occurred; the child who had been a devil in one home was seen to grow into an angel in another, and vice versa. We saw something happening, but we did not know exactly how or why. We explained to foster parents, and at the same time to ourselves, why this particular child was exhibiting these particular symptoms. Sometimes we even explained it to the child. We thought that if we could give causal explanations, cure would follow, and sometimes it did—not because

of the explanation, for we now know how little factual knowledge has to do with emotional reality, but because somehow through our efforts to understand, both we and the foster parents were able to identify with the child despite his behavior, and in the change of attitude thus produced, the child found release.

A NEW WORKING HYPOTHESIS

This hodgepodge of theory without consistency, and with a therapy whose basis we did not clearly see, was drawn into an ordered whole of consistent, thoroughgoing, psychological interpretation, with treatment logically based on actual findings, for the first time, about 1926, by Dr. Marion Kenworthy, in what her students have learned to know as the ego-libido method.

Dr. Kenworthy's formulation, based primarily on the Freudian analytic psychology, clarified, as nothing had ever done before, the implications of the concepts which case workers had been using, and more definitely related diagnosis to treatment. We learned to appreciate the detail of an individual's developmental history in terms of all its possible meanings for him, and we subjected ourselves to the kind of patient thinking which is required to evaluate each specific experience as satisfying or dissatisfying to the person concerned, and as destructive or constructive for his development from the standpoint of emotional maturity.

This point of view differentiates the love interest (libido) from the ego or self-maximation interest, and clearly recognizes that an individual may find satisfaction for either need in experiences which tend to hinder normal growth. This permits us to see such a habit as enuresis, for example, in several aspects—as satisfying to a libidinal need, dissatisfying to ego pride, and, on

the whole, destructive to both love and ego growth.

This analysis and evaluation of experiences is applicable to parents as well as to children, to foster parents as well as to real parents, and gives a basis for interpreting the immediate present relationships as existing in the family. When one can see how, and on what level of maturity, an individual has sought his satisfactions, by what devices and mechanisms he has protected himself from loss or substituted for the deprivations he could not escape, then it is theoretically possible to determine why he has entered into his present relationship with the marriage partner, on what level it is maintained, and what he puts into his relations with his children.

Moreover, after every detail known to us in the life history has been weighed, we should be in a position to see, almost on a quantitative basis, where treatment lies—whether the destructive development has been primarily on the ego or libidinal side, what there is of constructive experience to build on, and what type of constructive satisfying experiences are needed to even the imbalance or to release the infantile individual for growth towards maturity in a socially acceptable way.

Whatever one may think of the possibility or the value of separating ego interest from something we call "libido" but find very difficult to define or to keep in its place, whatever be our opinion as to the feasibility of deciding what any event, particularly in the past, may have meant to any person, emotionally or developmentally, since probably even he has no idea, the tremendous impetus and the increased clarification which Dr. Kenworthy's formulation has given to thinking and analysis of treatment in case work can hardly be overestimated.

WORKER'S RELATION TO FOSTER PARENTS

To describe the present situation, psychologically speaking, as it exists in the agency with which the writer is most familiar, is no easy task. Certain shifts in emphasis are very apparent. The child is no longer the target for direct attack, either by psychologist or case worker. He is to be understood either in terms of his developmental experiences, or through direct observation of his present patterns as they come out in the various contacts in which the worker can get first-hand information.

In foster-home supervision, the worker now accepts her function as largely confined to the foster parents, to whom she leaves all intimate contacts with the child, and whose relation to the child she tries to observe directly. She understands much better than she once did that if the placement is to become permanent, it will do so only as the foster parents take over full responsibility for the child, who will look to them, and not to the worker, for his security. She has learned not to be disturbed by symptoms, and to recognize even sex manifestations as largely symptomatic.

The worker's effort is not so much to suggest correctives or interpret behavior, as to reassure foster parents through her own attitude, and to bring into the situation a tolerance and a freedom from fear which may alter the interplay of forces lying back of the symptoms. She recognizes *her* relation to the foster parents as the therapeutic agent, in so far as there is one. If they can become aware of some of their problems, and get release from fear, irritation, or guilt through her understanding and acceptance of them, the whole situation may improve. If they

cannot, no direct treatment of the child, whose problem is in relation to them, seems likely to help very much.

There is in this concept of the worker's function a simplicity which is deceiving. Back of it must lie dynamic understanding of both child and foster parents, as they are in the present situation—an understanding so sure that the worker does not need to rely on theoretical interpretation of their problems to parents or child as a justification for being there; also a confidence in herself which can come only with an acceptance of self that enables her to tolerate what she meets in the foster parent and find no personal threat to herself in the complications which have arisen.

TABULATION NOT WORKABLE

The worker who approaches her task in this spirit is expressing a profound change in the psychological basis on which she works. Once, knowledge was enough. Once, we were satisfied to understand intellectually the life experiences of child and foster parent, to set them down in black and white and figure out in advance just what each combination ought to produce in the way of results. Now, we know that such exact one-to-one correspondence of psychological factors in living situations does not necessarily work out as planned by us. These paper causes and effects have a way of taking on an independent life when let loose in immediate dynamic relationships. We have become much more humble in laying down complete plans for other people, much less glib in handing out rationalized formulæ as cures. We are more ready now to admit that we deal with human emotions and human wills first-hand, not only in our clients but also in ourselves; that no developmental history can substitute for the living present, and no past cause can be re-

created to control an immediate situation.

We have talked for a decade about individualizing the child, but it has been largely a literary individualization. The period of description, of intellectual acceptance, seems to be passing. As we approach the child today, there is a genuine respect for his pattern; a profound realization that any vital change will come from within, through his own choice and determination. We no longer set ourselves to alter his make-up, mold his will, or weigh and measure the exact amount of security or satisfaction we have decided he needs. Rather, we are more willing to admit from the beginning that he is already an individual whose make-up we are bound to accept, and that at best our function is limited. We are fortunate, indeed, if our understanding of his personality enables us to select a home in which he will realize some measure of freedom to be himself—to develop not merely in resistance or submission, but positively, according to his own nature.

PERSONAL FACTORS IN THE WORKER

More and more, we are aware that our usefulness to the child and to the foster parents depends upon our own emotional freedom and flexibility—our own capacity to separate our personal problems from those of the child and thus make identification a tool of greater understanding, and not an escape from ourselves. We cannot afford to let our own inability to face the emotional experience of separation prevent us from knowing when a child will benefit by it. We cannot function helpfully for the child if our passionate identification with childhood excludes the possibility of identifying with foster parents also. Still less can we permit ourselves to project personal needs, fears, prejudices, or guilt into prob-

lems already difficult enough, requiring all the professional objectivity and wisdom which can be brought to bear.

Perhaps the most significant change in the psychology on which the children's worker operates is just this admission of its applicability to herself. The young worker of today, trained in the psychiatric approach, is facing a new psychological obligation, which the worker of yesterday hardly dreamed

of—the obligation to know and accept her own emotional life. Just how she is going to fulfill this obligation is far from clear; but she has already seen for herself that to offer therapy and professional help to any other human being, requires something beyond knowledge—a something which will leave her free for objective consideration of the unaccepted and distorted emotions and impulses which create the problems in her chosen field.

Progress in Understanding and Control of the Feeble-minded

By RANSOM A. GREENE, M.D.

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PROFESSOR THOMAS NIXON CARVER, of Harvard University, recently wrote an article for the editorial page of the *Boston Herald* on economics. In this article, he stresses the importance of "balance." He states that if we have an overproduction of farm products or if there is an overabundant population occupied in agriculture or other industry, prosperity is not to be expected. He informs us that there are three hundred or more classifications of occupations in various parts of the country. These classifications have many sub-classifications or specialties, but for indeterminate prosperity of the country as a whole, there must be a balance.

BALANCE IN INTELLECTUAL CALIBER

In a broad, general way, there seems to be an analogy when we study the human intellect as a whole. Heredity teaches us that if a tall father has tall sons, there may be one or more taller than the father, but there will also be one or more shorter. Nature seems to seek a level or a balance. It is probably true that nature has also pretty well balanced the matter of intellect as to superiority and inferiority. We have learned a great deal about heredity, but there are still, as there always have been, those who are leaders and those who are followers. The bison of the western plains followed the biggest and strongest bull, and herds of wild horses followed the smartest and fleetest horse. In the human race, there are degrees and levels of intellect. Some are of genius caliber and some of

idiot dimension, and one is as comfortable to live with as the other, perhaps.

We must think, however, of the intellect of human beings in terms of relativity—in relation to each other—or in terms of degree. Nature is apparently at work and a balance or a level is being sought. Whether this has been brought about by heredity or environment, or whether alteration of this process may be devised whereby heredity and environment, either or both, will change or improve this situation, remains to be seen.

Man has learned in business and economics that prosperity is dependent upon his so managing his affairs that a level of distribution is attained or a balance found. In the fields of sociology, psychology, and education, there are those who are able to go far and accomplish much, and there are those whose destination is near at hand and whose accomplishments are relatively small; but in order that all may contribute to the whole, each must have an opportunity to develop to his or her utmost capacity.

For a long time we have had the normal school, the college, and specialized institutions for the teaching of arts and sciences for the benefit of the superiors; but only in the last decade has it been more generally comprehended that the inferiors could accomplish more if they had instruction designed and arranged by special curricula, such as the opportunity classes, the coaching classes, and the special classes in the public school systems for the so-called retarded pupils.

Where such provision was made in a few instances previous to ten years ago, the methods of selection were haphazard and depended on chance, with many mistakes made and injustices done. We have to show progress in life or stand still, and in all attempts to stand still there is a tendency to fall backwards. To show that we are not standing still or falling backwards, I have in mind several progressive movements on foot in regard to the backward child.

BASIS OF DIAGNOSES

We owe much to the vision of Walter E. Fernald, who during the last ten years demonstrated the importance of diagnostic methods by use of the Ten Point Scale. This scale includes physical examination, family history, personal and developmental history, history of school progress, examination in school work, practical knowledge, economic efficiency, social history and reactions, moral reactions, and psychological tests.

The last test, in the psychological field, includes the Stanford-Terman Revision of the Binet-Simon Test, the test of development by Gesell, performance tests, and many others. All of these apparently measure accomplishment within their respective spheres, and capacity is inferred from the results; but many other factors must be considered, and in the hands of untrained, inexperienced, or immaturely prepared persons, these psychological tests are dangerous and sometimes vicious.

There is a great tendency on the part of many to believe that by purely psychological rating they can secure a description that warrants therapy, and this is very unwise. Descriptions are very valuable and are helpful with other factors in making a diagnosis; but without a complete measurement

of individuals as a whole, no matter how careful the description of particular points may be, it is impossible to diagnose correctly, and it is our opinion that the whole ten points are necessary to this end. Therapy and treatment are rather useless unless we know what we are to treat. Many years ago, I was taught by my preceptor that the only purpose of studying symptoms was to make a diagnosis. Therapy is very empirical and ordinarily useless if we have no diagnosis, and treat symptoms alone. By the use of the Ten Point Scale, we are selecting proper individuals, particularly in our public schools, for training in special classes, opportunity classes, and so forth, with far more scientific accuracy than was used a few years ago.

GROWTH IN COMMUNITY CARE

There is a marked increase in the number of special classes in the public school system in Massachusetts. In 1921, there were special classes in 24 cities and 10 towns in Massachusetts, with a total number of 3,012 pupils. In 1929, in 123 cities and towns, there were 499 classes, with 7,047 pupils, which means that during this period, classes have been established in 89 cities and towns, caring for 4,035 more pupils in special training. The institutions in Massachusetts provide for approximately 4,100 feeble-minded patients at the present time. Community care by means of special classes has increased to the above number. This shows, however, that there are still a great number in the community to be provided for. One of the most important steps for the accomplishment for this work is the law requiring examination of school children three or more years retarded.

The school committee of every town shall annually ascertain, under regulations pre-

scribed by the department and the commissioner of mental diseases, the number of children three years or more retarded in mental development in attendance upon its public schools, or of school age and resident therein. At the beginning of each school year, the committee of every town where there are ten or more such children shall establish special classes for their instruction according to their mental attainments, under regulations prescribed by the department.¹

For this law, we are indebted to Walter E. Fernald, M.D. We also have the Parole Law.

The trustees of a state school for the feeble-minded may permit any inmate of the school to leave the institution on parole for such length of time and on such conditions as they may determine and may from time to time extend the period of such parole or change the conditions upon which it is granted. They shall cause an investigation to be made prior to the granting of such parole as to the home into which such inmate is to go if paroled and other conditions and circumstances which may affect his welfare and behavior and shall provide such supervision of paroled inmates as they deem necessary for his welfare. They shall have such powers as to the revocation of the permit and as to the return of the inmate to whom it has been granted as are provided by law for the return of insane and feeble-minded persons to the institutions from which they have been temporarily released. No length of absence on parole under this section from a state school for the feeble-minded shall be construed as a discharge therefrom.²

From the studies and statistical data made available by examinations of public school children, a very definite proportion of such individuals in a community can be determined, and for all practical purposes can be prede-

termined on a percentage basis without examinations. Almost regardless of the community, we can say that there will be a certain number sufficiently retarded in school to warrant a definite number of special classes and special class teachers. In a population of one hundred thousand, we know that twenty per cent, or twenty thousand, will be of school age, and two per cent of these will need special classes. Thus, there will be about four hundred special class pupils, and there should not be more than twenty to twenty-five such pupils in a class. Therefore, in a community of one hundred thousand, we will need fifteen to twenty special class schoolrooms, with as many teachers.

COMPARISON OF INSTITUTIONAL AND COMMUNITY CARE

From the above figures, we can quite readily draw certain conclusions as to the progress that has been made and what remains to be done in the way of provision for the retarded. We might compare institutional provision made by Massachusetts with community provision for their care. It is most obvious, but has been overlooked until recently, that all of the feeble-minded do not need institutional care, nor would it be possible to provide it for all, because of financial reasons. The feeble-minded who need institutional care are usually behavior or antisocial problems or results of environmental circumstances, usually involving abnormalities that require other than community provision. Inasmuch as the institutions have about five per cent of the total number of feeble-minded and the applications on the waiting list almost equal this, we are well within the bounds of reason in saying that not over ten per cent of the feeble-minded need institutional care.

¹ General Laws of Massachusetts, 1921, Chap. 71, Sec. 46.

² Acts of the Massachusetts Legislature for 1922, Chap. 337.

It would seem from the above figures that Massachusetts has provided institutional care for a considerable percentage, but has not by any means made equal provision for the care and training of those in the community that need special consideration. There still remains in the community a great number of feeble-minded without special class or other pedagogical provision that is commensurate with their capacity. The state institutions care for fifty per cent of the institutional cases. The community is far behind, but is improving and has increased its provision since 1921 by over one hundred per cent. There yet remains ten times as much provision for the community to make.

EARLY EXAMINATION IMPORTANT

We have learned that it is most important that behavior abnormalities be detected in preschool age and treated even in the so-called normal children, as demonstrated by the habit clinics, directed by Dr. Douglas A. Thom. Beside the habit clinic, we have the child guidance clinic. Studies made by the Judge Baker Foundation demonstrate that early correction of bad habits saves normal children from a youth and maturity of maladjustment. If it is true that remarkable results may be accomplished with normals, why should we not make a greater effort with the mental defective, who is unable to compete with normals? If inferiority complexes play so large a part in conduct disorders, I am sure the feeble-minded have reason to feel their inferiority, and, as a defense reaction, think that they may shine in publicity by means of conduct not dared by the normal.

I do not believe that the inferiors or the subnormals or the feeble-minded are very different from normal persons in behavior except in degree. They

are not equal to competition with normals, and therefore it is highly important that they be recognized early and that proper methods be promptly adopted that the child may correct bad habits and antisocial traits. The earlier the attempted salvage, the more likelihood there will be of success. The etiology of the social behavior of the feeble-minded is not very different from that of normals; but I think in the case of normals, even a very bad environment may be overcome by their own efforts in later life, while in the case of the inferiors or the feeble-minded, their handicaps are too great and they do not overcome them unaided. We are certain from the teachings of the long-established church that the catechism taught early lasts a long time.

POSSIBILITY OF OCCUPATIONAL USEFULNESS

Economists tell us that it is not necessarily true that there is a demand for labor, but the fact remains that there is much even in our age of automatic machine living that has to be done by strength of limb and back. Some of these tasks are very monotonous and tedious, but they may be pursued industriously and conscientiously by individuals with minds that do not rebel at the repetition of stereotyped activities. Thus, these individuals have opportunity to be assets instead of liabilities in the world's economy.

There has been sufficient evidence in the last ten years to prove a definite correlation between intellectual and psychometric measurement of intelligence, so that we may with a fair degree of certainty predict the school level to be ultimately attained. We certainly can, though less accurately, determine a person's industrial possibilities. This may be done early

and proper training may early be provided for this field of endeavor.

It is amazing to see the work that may be accomplished by the unskilled if trained, even if the I. Q. is very low. This is shown by the accomplishments in an institution for the feeble-minded where modern methods are used, and in the special classes in the community, especially where there are centers that provide manual training. It is interesting to note that in the public schools, manual training for normal pupils often does not begin until at least the sixth grade or perhaps the junior high school has been reached. In the institutions, manual or industrial training is started with the beginnings of instruction, even on the Seguin Training level, which is the prekindergarten level of pedagogy.

I find that there is also some confusion between the terms "occupational therapy" and "industrial training." With the backward children, I very much prefer the term "industrial training." Industrial training is a most important part of education. In fact, intellectual training, industrial training, and organized play and physical training make up a "trinity," and each is dependent upon the others for complete development to the utmost capacity of the backward child. All these have been demonstrated and their levels of possibility pretty well determined. There remains, however, an element for which there seems to be no test that we can apply and use for prediction. I refer to the individual's social level. To estimate the ultimate results of the behavior reactions, the traits, the trends, and the possibility of socialization of individuals is certainly a very difficult and practically impossible task.

LEGAL PROVISIONS

In certain types, which constitute

a very few of the feeble-minded, we feel that we can quite early predict a bad prognosis. They are not going to be salvaged by any means of training or environment available. This small group we classify as defective delinquents. A progressive step was made when the law providing for their specialized care was inaugurated. This law is as follows:

If an inmate of a school for the feeble-minded persistently violates the regulations of the school, or conducts himself so indecently or immorally, or so grossly misbehaves as to render himself an unfit subject for retention therein, the officer in charge shall make a report thereof to one of the judges mentioned in section fifty. The judge shall make inquiry into the facts and, if satisfied that such inmate is not a fit subject for retention in the school, shall order his removal to a department for defective delinquents, according to his age and sex, as hereinafter provided.³

This law was later amended as follows:

At any time prior to the final disposition of a case in which the court might commit an offender to the state prison, the reformatory for women, any jail or house of correction, the Massachusetts Reformatory, the state farm, the industrial school for boys, the industrial school for girls, the Lyman School, any county training school, or to the custody of the department of public welfare, for any offence not punishable by death or imprisonment for life, a district attorney, probation officer or officer of the department of correction, public welfare or mental diseases may file in court an application for the commitment of the defendant in such a case to a department for defective delinquents established under sections one hundred and seventeen and one hundred and twenty-four, or to a department for the care and treatment of drug addicts, established by the governor and council under authority of said sec-

³ General Laws of Massachusetts, 1921, Chap. 123, Sec. 116.

tions. On the filing of such an application the court may continue the original case from time to time to await disposition thereof. If, on a hearing on an application for commitment as a defective delinquent, the court finds the defendant to be mentally defective and, after examination into his record, character and personality, that he has shown himself to be an habitual delinquent or shows tendencies towards becoming such and that such delinquency is or may become a menace to the public, and that he is not a proper subject for the schools for the feeble-minded or for commitment as an insane person, the court shall make and record a finding to the effect that the defendant is a defective delinquent and may commit him to such a department for defective delinquents according to his age and sex, as hereinafter provided. If, on a hearing on an application for commitment as a drug addict, it appears that the defendant is addicted to the intemperate use of stimulants or narcotics, the court may commit him to a department for the care and treatment of drug addicts if and when such a department is provided.⁴

Early training does greatly affect and ameliorate the antisocial behavior of the institutional type of mental defective; and certainly enormous numbers are salvaged, either to live comfortably with institutional supervision, or in the community with supervision, or in the community by their own efforts and good behavior.

Balance, again, is a very important factor in the outward expression of the individual, in his moods, in his traits, and in his behavior; and we can hardly agree, if applied to the feeble-minded, with some of the teachings of the schools that believe in the freedom of expression. For certainly the feeble-minded must be guided by judgment and training in their earliest childhood, and the necessity for institutional care of even the nursery type of feeble-minded child is certainly increasing and grow-

ing more obvious. Compliance with socially accepted standards is more difficult to carry out as we increase our urban population; and the feeble-minded child, who is noisy, presents traits that cannot be tolerated in the tenements and apartments of city living. In years past he could be cared for under rural and individual dwelling house conditions. This creates a demand for institutional care at a much earlier age than formerly.

HEREDITY NOT ALL-IMPORTANT

In the fields of medical, pathological, serological, histological, biochemical, and endocrinological researches, there is demonstrated the futility of considering heredity as the all-important factor in mental defect. We have learned many things from hereditary studies but we are still unable to do more than generalize. Oliver Wendell Holmes told us many years ago that "we are an omnibus in which is seated all of our ancestry," and in this statement he has summed up about all that we know at the present time. We might glibly speak of the heredity and physical factors, but no one is able definitely to state the specific instance or trait or mental aberration that is of hereditary and not of social origin.

We make researches in the personal and the family history of insane and feeble-minded persons, and we say that this case is one of heredity or is a germ-plasm type while that case is not; but so far as I know, no one has ever determined what is a normal ancestry, and it is perfectly possible for me to believe that the average man may have just as marked a hereditary taint in his ancestry as does the one whom I pronounce a germ-plasm type of defect or psychosis.

Stimulus has been given to the study of eugenics and heredity and of environmental factors by pathological

⁴ Acts of the Massachusetts Legislature, 1928, Chap. 333.

findings that point to explanation of conditions that were formerly thought to be of hereditary origin and now seem to be purely environmental, such as the findings of Sharpe in necropsies showing hemorrhages in brain: "In one hundred lumbar puncture tests consecutively done in new-born babies, within twelve or twenty-four hours after birth, intracranial hemorrhage of varying degree in the new-born occurs rather frequently, in nine per cent of this series." Undoubtedly, accidents and damages of this kind frequently happen and are unsuspected at the time, as well as many other conditions not at present understood. Pediatricians and obstetricians are studying the vague symptomatology manifested in infants, which was not previously considered as of serious moment, but is now regarded as evidence of the possibility of even gross brain damage having been done.

We have seen state after state adopt legislative measures for sterilization in the hope that this may be of vast benefit, and I am afraid it is regarded by the laity as a panacea; but giving due credit to all of its virtues, this certainly will not prevent mental defects. Only a small proportion of the feeble-minded are cared for in institutions and these are not likely to have progeny anyway, because, in all probability, they will be institutionalized a great part of their lives. Therefore, sterilization of them would serve no purpose, and if all of them were sterilized, only a minute percentage of those who will have defective progeny would have been treated. At least ninety-five per cent of the feeble-minded are in the community, and no sterilization act affects them.

PROGRAM FOR THE FUTURE

The information gleaned from progress made in the last ten years may be

crystallized into a pretty definite program for the benefit of the future, and I should like to summarize it in the following items:

1. We no longer see the necessity for institutional care for more than ten per cent of the feeble-minded.

2. Ninety per cent of the feeble-minded should be recognized and provided for by the community in its school program.

3. Measures should be adopted for the socialization of the feeble-minded in the community by means of welfare agencies, clubs, and parent-teachers and other organizations, so that the nineteen hours of the day outside of school may have a beneficial program arranged.

4. We see the necessity for early recognition of mental defect, not waiting for three years of retardation in school work for evidence of defect sufficient to call for examination, but authorizing examination as soon as the child evidences difficulty in school work.

5. Provision should be made for manual and trade training for boys and girls between twelve and sixteen years of age. Intellectual training during this period is of secondary importance, the paramount consideration being industrial and social training.

6. We recognize the importance of some form of legalized or authorized sterilization of the germ-plasm type of individuals, who are comparatively safe in the community if prevention of progeny is assured.

7. Earlier institutional care should be given the nursery type, so that every advantage to be gained from such training and residence may be given the improvable or socially feeble-minded, in the hope of shortening the total length of institutional care, with relief to the conflicts such individuals create in their homes and for their siblings.

8. Our research in pediatrics and obstetrics should be stimulated for the prevention of accidents and illness that may include etiological factors in mental defect.

9. Research laboratory work should be undertaken, possibly combining material from several institutions, using one

as a center for the pathological work.

10. Heredity studies should be scientifically continued, so that we may more clearly differentiate the etiology on bases of pathology, endocrinology, and biochemistry, and learn to distinguish symptomatology as such without mistaking it for etiology.

Clinical Facilities for the Study of Personality and Behavior Problems in Children

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STEVENSON¹ estimates that in 1921 there were available in mental hygiene clinics in this country about two hundred hours per week of psychiatric time for the study and the treatment of children's problems, increasing to about sixteen hundred hours in 1928, and reaching perhaps two thousand hours this year. Prior to 1921, there were very few mental hygiene clinics restricting work to children—the outstanding ones being the Institute for Juvenile Research in Chicago (1909) and the Judge Baker Foundation in Boston (1917). Certain hospitals—notably the Michigan State Psychopathic Hospital (1906), the Boston Psychopathic Hospital (1912), and the Henry Phipps Psychiatric Clinic at the Johns Hopkins Hospital (1913)—maintained active out-patient clinics, where, as well as in the wards, children were examined and treated. Massachusetts and New York had adopted a system of clinics, especially for adult after-care, operated by the various state hospitals. An occasional court, such as the Children's Court of New York City (1917), had a clinic.

RECENT DEVELOPMENT OF FACILITIES

In 1921–1922, the great wave of development seems to have begun. In that year, Thom² started his habit clinics in Boston; the Commonwealth

Fund embarked on its five-year program for the prevention of delinquency;³ many new clinics were opened; mobile clinics were developed; and the phrase “child guidance clinic” was coined to cover the activities of a special type of clinic. Subsequent developments have been tremendous, and by 1928 there were 451 clinics giving psychiatric service to children (estimated to be six hundred this year). One hundred and six of these clinics were child guidance clinics, one half of them being small, one fourth medium, and one fourth full-time.⁴

So rapid have been these developments, so diversified the types of organizations involved, so numerous the auspices under which work has been established, and so ramifying the interrelationships of programs in mental hygiene, social service, education, psychology, recreation, religion, medicine, and so forth, that it is extremely difficult to present anything approaching an adequate analysis of the developments in technique and in underlying philosophies of approach in the clinical field. Nevertheless, it is the function of this article to attempt such a sketch.

GROUPS NEEDING SERVICE

As I have pointed out in detail elsewhere,⁵ there are several groups of

² *Annual Report of the Commonwealth Fund, 1922.*

⁴ Stevenson, *op. cit.*

⁵ Lowrey, Lawson G., “Program for Meeting Psychiatric Needs in the City,” *Mental Hygiene*, Vol. 10, July, 1926, p. 464. Also in *Proceedings, National Conference of Social Work, 1926*, and in pamphlet *The Child Guidance Clinic and the Community*, issued by the Commonwealth Fund, 1927.

¹ Stevenson, George S. Personal communication based upon an analysis of clinical facilities for children, issued as the second edition of the *Directory of Psychiatric Clinics for Children*, by the Commonwealth Fund, in 1928.

² Thom, Douglas A., “Treatment of Special Problems in the Preschool Period,” *Proceedings, International Congress on Mental Hygiene, 1930.*

children for whom clinical service should be provided. There are, for example, those children who present rather marked mental problems, such as the psychotic, the feeble-minded, the epileptic, and the psychoneurotic.

In the early days of psychiatric work with children, when the major clinical attempt was in terms of the establishment of a diagnosis and the direction of individuals to appropriate institutions or clinicians for treatment, probably the larger portion of psychiatric time was given to diagnostic studies of such problems. Certainly, cases of the first three types demand, for the most part, a closed and simplified environment, and the fourth type demands individualized treatment by those expertly qualified to give it. With the evolution, however, of outpatient clinics and the great wave of development of extramural clinics already mentioned, other groups of children were presented for adequate study.

Children who become dependent through some form of social catastrophe within the family may or may not present known symptoms of personality and behavior maladjustment, yet the need for adequate planning for their future management and training makes a mental health study very important. Children who fail in the competitions of school life are sometimes feeble-minded, but many of them are not, and mental hygiene analysis is helpful in determining treatment. Children presenting symptoms of behavior maladjustment, ranging from mild to grave, in many instances represent the potential adult neurotic, psychotic, and recidivist delinquent, and present many problems in mental health. These groups, however, do not exhaust the list of children who stand in need of mental hygiene services.

The average child in the average

home presents to himself and to his family problems which may be greatly helped by mental hygiene approach and understanding, without these being necessarily symptomatic of grave underlying stresses or difficulties. There are here two major groups of situations which demand attention: (1) some of the complexes and emotional conflicts which are more or less common to us all; and (2) those situations where, through ignorance or otherwise, faulty training has resulted in habit formations which tend to inhibit the greatest success of which the individual may be capable, or which make for minor difficulties in social relationships.

Whatever the nature of the situation, it is certain that America has become "child conscious" to a very marked degree, with the result that enormous demands are made on clinics, on organizations studying child development, and on organizations interested in parental education, for assistance with all sorts of problems having to do with mental health and social adjustment.

TOTAL PERSONALITY RECOGNIZED

To the writer, the most significant development of the past fifty years is the ever increasing emphasis on man as a total individual, living and reacting in a series of changing situations, there being a constant dynamic interplay between individual and situation, each influencing the other. Furthermore, it is increasingly demonstrable that the reactive possibilities of the individual at any given time are determined by his entire background—biological stock, physical, mental, and social development, and those experiences of life which have helped to mold his personality as it evolved.

On all sides, the essential fact that the major problem of mankind is man is increasingly emphasized. Social

work, medicine, psychology, psychiatry, law, religion, education, sociology, anthropology, all show an increasing recognition of this particular point. For a considerable period, until comparatively recently, each of these groups viewed man not as a whole, but largely with reference to particulars. The doctor saw him as a collection of signs and symptoms referable to pathological deviations in some organ or organs. The psychologist studied his reactions to various stimuli, but emerged primarily with a mass of data to be utilized, rather than with an individual. The psychiatrist was interested in the analysis of symptoms into syndromes and clinical pictures, but although he definitely made an effort to visualize his patient as a total individual, there were elements missing. The educator had his attention primarily fixed upon the learning process, and saw children in groups to be taught a certain amount of information. The sociologist studied man in the mass for particular features of his general economic and social set-up. The social worker saw problems in unemployment, in economics, in broken homes, and so forth, without a very clear visualization of the individual as a reacting mass in the midst of these complications. Anthropology was physical, rather than social as it is today. In the legal fraternity, a man was judged by his acts and punished accordingly, whereas now there is a tendency to view the individual as an individual, who should be treated as such even in the eyes of the law.

The extramural clinics, by their work with children, have contributed their share to the evolution of the concept of the individual as a total personality involved in a total situation, the two interacting each to modify the other, and the total interplay being of importance in determining what the final behavior

will be.⁶ Today, there is the spectacle of all sorts of professional groups setting up clinics—psychoeducational, child guidance, social behavior, and so forth—in which considerable energy is likely to be wasted in the attempt to detect which group or groups have the most clues to given behavior.

The answer is that no one group holds all the clues to human behavior; that any fact in the social history of man and his institutions may at some point illumine an obscure or difficult problem in the present behavior of an individual. The most successful work has been done where several techniques have been joined to approach the problems of a given individual from the several different angles which must always be considered if the behavior of the individual is to be completely understood.

COMBINED TECHNIQUES

At the forefront of this movement to pool techniques has been the child guidance clinic, with its combination of the techniques of general medicine, psychiatry, psychology, and social work. This "glorified psychiatric team," to use Southard's expression for it, actually brought together knowledge not only of the particular technical subjects involved in the training of these different individuals, but also a considerable knowledge of education, of recreation and its utilization, and of the resources of home, school, and community which might be made available in the solution of a difficult problem.

As clinics of all sorts have been called upon to deal more extensively with the problems involved in everyday living, they have of necessity ana-

⁶ For some elaboration, see Lowrey, L. G., "Environmental Factors in the Behavior of Children," *Amer. Jour. of Psychiatry*, Vol. 6, Oct., 1926.

lyzed their case situations less and less in terms of fixed concepts, and more and more in terms of the dynamics of the total situation. Furthermore, they have of necessity established the closest coöperative relationship with other agencies and organizations in the community which have to do with children and their problems, and have been more and more called upon for educational work. For the most part, this has been due to no special reaching out of the clinics for more work and more problems, but to the increasing demand made upon their services, as professional groups and parents became more concerned about the meaning of specialized bits of behavior.

Those case situations which present less clear-cut signs and symptoms are infinitely more difficult to understand in detail and to treat than are those which, because of the major deviations presented, are fairly sharply delimited from normal or average experience. Because of this very fact, a distinction between mental hygiene clinics and psychiatric clinics, and between the mental hygiene approach to these problems and the psychiatric approach, seems valid. In the latter, the greatest need may be, and usually is, for concentrated work between the therapist and the patient. In the former, not only is this direct attack upon the problems of the patient necessary, but there are very important features of an indirect attack in terms of manipulation of environmental resources and the influencing of the attitudes of people, especially those most important people in the environment of a child, the parents and the teachers.

The first type of indirect effort may involve the mobilization of a number of social agencies in the community, since such factors as placement away from home, relief, direct organization of recreational groups, and so on, may be

involved. In addition, it may be necessary to mobilize a variety of resources within the school or to utilize summer camps, and so forth, for the purpose of achieving definite modifications in the youngster's reactions through the influence of the particular environment. Even so, as has been well brought out by Miss Marcus⁷ and by Lee and Kenworthy,⁸ there still remain urgent human problems involved in the giving of relief and in the working out of the greatest utilization of these community resources.

DEALING WITH PARENTS

Where the indirect approach to the specific problem of the child is made by attempting to change the methods of parental handling, it is usually necessary to penetrate, at least to some degree, into the emotional difficulties of the parent. This means, taking it by and large, the utilization of the same sort of technique and approach to the problems of the parent that are utilized in the treatment of the child or in the treatment of adults who present difficulties in personal adjustment.

If, now, the point is emphasized that the parent's problem of today has not sprung up over night but usually has its genesis in the entire series of life experiences of the parent, with special reference to those early childhood experiences which are so important in determining personality characteristics, then the need for a genetic dynamic approach in treatment becomes more clear-cut. It is here that there is a point of danger.

It is a matter for the nicest of clinical judgment to determine whether or not,

⁷ Marcus, Grace F., *Some Aspects of Relief in Family Case Work*, New York: Charity Organization Society, 1929.

⁸ Lee, R. R., and Kenworthy, Marion E., *Mental Hygiene and Social Work*, New York: Commonwealth Fund Division of Publications, 1929.

given emotional difficulties in the parent, the therapeutic attack should attempt to probe them and clear them up. In many instances, a level of superficial adjustment has been reached by the parent which a therapeutic attack apparently may upset without replacing the adjustment with some more satisfactory one. In other instances, parents are well aware of the general nature of their difficulties and resistances, but have found no way in which to deal with them.

In still other cases, it is clear that only some approach such as a complete psychoanalysis is likely to benefit the parent, and, in many cases, for many reasons, that may not be feasible. Of necessity, then, one must fall back upon an indirect and often a more superficial type of approach, setting the parent tasks which will provide outlets for his emotions and energy, as well as contribute, through the information gained, to a stabilizing of the situation. One must not, in this particular field, place too much pressure in the attempt to hasten this process, because doing so is likely only to make a bad situation worse.

Outstanding among the dynamic problems requiring careful treatment are those involved in the emotional relationship between parent and parent, and parent and child. Recognition of the universal ambivalence in the attitudes of those who make up the family circle towards one another, while not yet universally accepted, nevertheless marks a long step in advance in the facilitation of the delicate issues involved in treatment. Factors of rejection, of over-protection, of parent-child fixation, of various libidinal and ego competitions, of conflict over difference (inferiority complex), of the

great need for feelings of personal adequacy and of group security—these, taking them by and large, are among the more important dynamic issues in the life of the individual, which the therapist must meet by direct and indirect methods.

PREVENTIVE WORK

Increasingly, the emphasis is on treatment—treatment for purposes of prevention. To deal with the habit which is now difficult, the personality trait which is interfering with successful adaptation to reality, or the behavior manifestation which is creating social discomfort, is part of a program not only for therapy in the present but also for the prevention of graver manifestations in the future. It must be remembered that much of the urge to work with children arose from the recognition of the fact that the life histories of the adult psychotic, the psychoneurotic, the habitual criminal, and many dependents gave indications of symptomatic difficulties in personal and social adaptation as children.

What is increasingly needed is to deal with the child as a total individual involved in a total situation, rather than with his individual symptoms and behavior. To do so demands the utmost in knowledge, technique, and patience: knowledge of human make-up and the influences of the ordinary experiences of life; technique which recognizes and utilizes the enormous influences of the personal relationship established between the therapist and the patient; and patience which recognizes the slow process of change and which has as a part of it that sympathetic firmness which in and of itself is so important in meeting the problems of the child.

A Decade of Progress in the Mental Hygiene of the Preschool Child

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ONLY a decade ago, the very term "preschool" had a somewhat strange and academic flavor. Now it is spelled without a hyphen and is everywhere used as a convenient adjective and sometimes even as a noun. For the preschool child is beginning to go to school. His status has so changed that it is becoming equivalent to that of the elementary school child. Although he does not come within the age limits of compulsory education and medical school inspection, the social importance of the preschool child has received a remarkable accession of recognition in the postwar years. This changing status is particularly reflected in the varied measures for the protection and the promotion of early mental development.

Immediately after the war, the hygiene of the preschool period was aptly characterized as a "no man's land" in the field of social endeavor. Lying outside of the ordinary limits of infant welfare work on the one hand and of public education on the other, the years from one to five were, in a sense, neglected. Even scientifically, these years had received a secondary degree of attention. In the past decade, this situation has so profoundly changed that the preschool sector of activity has become an "every man's land." Psychologists, psychiatrists, kindergartners, primary school teachers, home economics and social workers, public health leaders, mothers' clubs, and mental hygiene organizations have found themselves side by side in the new interest in the preschool child. It

does not appear to be a passing wave of interest, but a many-sided social movement arising out of new concepts of family and child life.

BRITISH AND AMERICAN ACTIVITIES

In some of its phases, this movement came to earlier expression in England than in America. In 1918, the British Parliament passed the Education Act, with a clause which has become historic:

The powers of Local Education Authorities shall include power to make arrangements for supplying or aiding the supply of nursery schools . . . for children over two and under five years of age . . . whose attendance at such a school is necessary or desirable for their healthy physical and mental development.

This enactment must be regarded as an explicit and significant extension of social control in the field of mental hygiene.

Economic and humanitarian factors have figured conspicuously in the preschool child welfare activities of England. In America, organized interest in the preschool child has had many sources. There has been concern for the underprivileged nursery child, but the problems have been approached from the varied angles of public health, the kindergarten, parental education, child guidance, and developmental research. Children from favored social-economic levels have figured almost more prominently than the less fortunate. So varied have been the activities that it is difficult to give them summary characterization even under the broad caption of mental hygiene.

It is noteworthy, however, that nearly all of these activities have been concentrated in the past ten years. A decade ago, only a few pioneer nursery schools were in existence. Now, they are almost a standard feature of the American university campus. Ten years ago, the provisions for parental education were meager and scattered. In comparison, the provisions of today are extensive in scope; and they are becoming an organic part of adolescent and adult education. Prior to 1920, child guidance facilities for children of early ages were almost unknown; methods of psychological diagnosis for these ages were not available. A decade ago, the present vast organization of child research was in its beginning. Since then, America has become the leading country of the world in the volume and the diversity of its scientific investigations into early child development. Correlated with this scientific movement, there has been a striking increase in socialized effort and technique to improve the psychological care of the young child.

Pope's dictum, "the proper study of mankind is man," has in America been revised to read, "the proper study of mankind is the young child." Never before in the history of education has a people so deliberately and on such a large scale undertaken to investigate the nature and the potentialities of childhood. Although there were anticipations and preparations in the prewar period, the postwar decade marks an almost revolutionary rise in the status of the preschool child.

The major expressions of this change in status with special reference to mental hygiene may be conveniently reviewed in four directions: (1) organized effort in the field of preschool hygiene; (2) the nursery school movement; (3) child and parent guidance; (4) research in child development.

ORGANIZED EFFORT IN PRESCHOOL HYGIENE

Under this heading may be listed various organized undertakings, official and voluntary, which have concerned themselves directly or indirectly with the mental hygiene of young children.

In 1919, the Federal Children's Bureau Conference on Child Welfare Standards, called by the Secretary of Labor at the request of the President of the United States, formulated the following as one of its minimum standards:

A sufficient number of children's health centers to give health instruction under medical supervision for all infants and children not under the care of a private physician, . . . at least once a month throughout the first year, and at regular intervals throughout the preschool age.

Although this declaration was primarily directed to the protection of physical welfare, in application it is coming to embrace problems of a psychological or educational character. The preventive trend of maternity and infancy work has, in the postwar decade, led to an increasing emphasis on the mental aspects of child care.

In 1921, Congress passed the Federal Maternity and Infancy Law. The practical work under this law has inevitably widened to include incidental activities of a mental hygiene character. In 1928, approximately sixteen hundred workers in forty-five cooperating states and Hawaii were paid from maternity and infancy funds. Twenty of these states reported seven thousand additional volunteer assistants, lay and professional. More than 313,000 infants and preschool children were examined; more than 700,000 home visits of instruction by public health nurses were reported; 6,000,000 pieces of health literature were distributed.

These figures give some indication of the vast opportunities of mental hygiene work which arise out of public provisions for medical supervision. Both in public health work and in private medical practice, there has been a steadily growing recognition of the mental factors in child health and in parental responsibility.

In 1930, Herbert Hoover called a White House Conference on Child Health and Protection to report on the present status of health and well-being of the children of the United States; on activities in the field of child hygiene; on possible steps to be taken in readjusting and supplementing community programs for child health and protection to meet the needs of children more adequately and expeditiously. The details of organization of this Conference were undertaken by a planning committee, with Dr. Ray Lyman Wilbur as Chairman. Although the work of the Conference has not been completed at the present writing, the organization of the Conference has proceeded far enough to clearly forecast an emphasis upon the mental hygiene of early childhood.

The work of the Conference has been divided into four sections, namely: I. Medical Service; II. Public Health Service and Administration; III. Education and Training; IV. The Handicapped. It is significant that the first subdivision under Section I deals with the field of Growth and Development, and it is planned to make this subdivision embrace in a basic way both mental and physical aspects. Under Section III there is a special subdivision devoted to family and parent education and another to the infant and the preschool child. The prospectus of organization of this White House Conference therefore furnishes further evidence of the enhanced status of the preschool child and of the

new tendency to bring the problems of physical and mental welfare into close relationship.

The scientific investigation of the problems of child development has in America received its chief impetus from non-governmental sources. This investigation has had a phenomenal growth in the past decade. The National Research Council in 1923 gave its official recognition to the scientific status of child research by the organization of a Committee on Child Development to foster and coordinate such research. More recently, under similar auspices, a conference was held to outline the field of study represented by problems of family organization and of family life. Increasingly, the problems of child research and of mental hygiene are being approached from the standpoint of social and home organization. The problems are so interrelated that they cannot be solved by the traditional delimitations of scientific disciplines.

Mention should here be made of the important work of the Laura Spelman Rockefeller Memorial. This Foundation, organized in 1918 for the advancement of the social sciences, has in the past decade given substantial support to programs of child research and to educational and social projects in the field of early childhood. The Foundation has also made possible three nation-wide conferences of scientists and specialists concerned with the study of the physical and mental aspects of child development.

A noteworthy expression of the new status of the preschool child came forth in 1929 in the Twenty-eighth Yearbook of the National Society for the Study of Education. This society appointed a committee¹ for the preparation of a

¹ This committee consisted of Bird T. Baldwin, late Director of the Iowa Child Welfare Research Station and Research Professor in Educational

survey of the accomplishments and trends in the field of preschool and parental education. A volume of 875 pages was published, dealing with the organization of preschool education, provisions for parental and preparental education, professional training of leaders, and child research and training methods. This volume clearly reflected the interwoven functions of the numerous agencies which now affect both the daily and the special mental hygiene of the preschool child.

THE NURSERY SCHOOL MOVEMENT

The growth of the nursery school movement in America has been confined almost entirely to the postwar decade. According to a recent report compiled by Mary Dabney Davis, specialist in nursery-kindergarten-primary education, January, 1930, three schools were established in the period from 1914 to 1918; sixteen were established in the next five-year period; 108 in the period from 1924 to 1928. Twenty-two more schools were established in 1929, making a total of 149

Psychology, State University of Iowa, Iowa City, Iowa; Arnold Gesell, Professor of Child Hygiene and Director of the Yale Psycho-Clinic, Yale University, New Haven, Connecticut; Patty Smith Hill, Professor of Education and Director of the Department of Kindergarten-First Grade Education, Teachers College, Columbia University, New York City, New York; Lois Hayden Meek, Educational Secretary, American Association of University Women, Washington, District of Columbia; Douglas A. Thom, Director of the Division of Mental Hygiene, Massachusetts Department of Mental Diseases, Boston, Massachusetts; Edna Noble White, Director of the Merrill-Palmer School of Homemaking, Detroit, Michigan; Helen Thompson Woolley, Director of the Institute of Child Welfare Research and Professor of Education, Teachers College, Columbia University, New York City, New York. The volume was ably edited by Dr. Lois Meek, Chairman, and it may be consulted as a convenient handbook of information, covering the recent history of preschool and parental education, and giving summaries of scientific studies of the physical, social, emotional, and intellectual life of the preschool child.

schools reporting. When 139 schools were analyzed on the basis of their major functions, they were distributed as follows:

Class A. Schools organized principally to provide educational programs for young children and their parents, 62.

Class B. Demonstration and training centers for students in teacher training institutions and in departments of education, home economics, and psychology in colleges and universities; for pupils in upper elementary grades and high schools; for trained nurses and nurse maids; for demonstration of the values of preschool education to communities, 42.

Class C. Laboratories for research in child development and parent education, 9.

Class BC. A combination of the purposes described under "B" and "C," 26.

These nursery schools report a total enrollment of approximately three thousand children. When it is recalled that the preschool population of the country is in size almost equal to that of the elementary school population, and that only about one child out of every eight of eligible age is attending a kindergarten, it is in a statistical sense clear that formal provisions for preschool education are very incomplete in America. The social importance of the nursery school movement, however, greatly exceeds its numerical limitations. These schools are being conducted in close association with universities and adult education agencies and their influence is widely felt at the present time. Their educational procedures and philosophy vary widely. Because of their diversity and experimental approach, nursery schools have proved suggestive and liberalizing to kindergartners and to day nursery and parental groups. Furthermore, the management of problem children in

nursery schools is helping to define methods of child and parental guidance.

In 1926, representatives of nursery school education organized themselves into a National Committee of Nursery Schools. During the present year, this organization has widened its scope and a National Association for Nursery School Education has been formed. The work of the Committee has enjoyed the coöperation of the National Council of Parental Education, the National Council of Primary Education, the International Kindergarten Union, and similar groups. This co-operativeness augurs a trend toward the unification of nursery, kindergarten, and primary education; and gives a new preventive outlook upon problems of early mental hygiene.

In this trend toward unification, the American kindergarten holds a position of great strategic importance. In response to the demands of the present and of the future, the International Kindergarten Union has within a few months changed its name to The Association of Childhood Education. This is a significant indication of the present situation in preschool education.

CHILD AND PARENT GUIDANCE

A decade ago, specific mental hygiene activities in behalf of children were largely limited to the adolescent and preadolescent age. But the preventive trend in the mental hygiene movement and in pediatric medicine, combined with the increase of knowledge in the fields of genetic and applied child psychology, has placed a new emphasis upon the younger age groups both in the field of diagnosis and that of guidance. This tendency has been accelerated by the success of the nursery schools, which have frequently coped with the management of problem children and the treatment of faulty parent-child relationships.

A day school for habit training was

established as early as 1922 in Boston, Massachusetts. The Mental Hygiene Division of the State of Massachusetts has developed a clinical service for children of preschool age through special habit clinics. A guidance nursery was opened at the Yale Psycho-Clinic in 1926 as an adjunct to the service division of the clinic. Numerous clinics and child-caring agencies throughout the country are steadily increasing the proportion of contacts made with children of preschool age, including infants in the first year of life.

The necessities of mental hygiene control of the parent-child relationship and of a developmental diagnosis of foster children prior to placement and adoption have put an added premium upon the downward extension of psycho-clinical methods. With the education of public opinion in the significance of behavior problems and in the importance of healthy mental growth, the preventive aspects of public health work and of private medical practice receive increasing attention. As a result, the general practitioner, the pediatrician, and the psychiatrist, both in the public clinic and in the consulting office, are concerning themselves more and more with psychological problems in young children and their parents.

The close of the nineteenth century witnessed the establishment of the principle of safeguarding the physical health of the newborn child. The twentieth century, and most notably the third decade of the twentieth century, is witnessing the extension of this principle toward a comprehensive developmental supervision concerned with mental as well as physical health.

RESEARCH IN CHILD DEVELOPMENT

In many respects, the most conspicuous and significant feature of the decade

under review is the extraordinary increase in the volume of research relating to child development. This increase is the result of the expansion of the fundamental biological sciences and the new interest in the understanding of the mechanism and the forces of social organization. The study of child development has become at once a branch of human biology and of social science. The problems of child development involve such varied scientific fields as biochemistry, developmental anatomy, nutrition, anthropometry, anthropology, psychiatry, pediatrics, and genetic, experimental, comparative, and clinical psychology.

Child development is a focal area for psychobiological and medical knowledge converging upon the central problem of early human growth. This is, of course, a prodigiously inclusive field of inquiry; but it is a legitimate one, because the phenomena of growth are subject to general and unifying laws which can be formulated only by coordinated contribution from several scientific domains. Growth is itself a unifying concept, which removes undue distinctions between mind and body, between heredity and environment, between health and disease, and we may add also, between separate scientific disciplines.

The postwar decade is notable for the intensity of scientific activity in the exploration of the genetic problems which underlie heredity and individual growth. A survey made in 1926 under the auspices of the National Research Council Committee on Child Development showed 418 scientists working in these fields. Of these, twenty-six per cent were active in the field of health and disease in their relations to child development; twenty-one per cent were studying behavior and habit problems, personality traits, personality adjustment, emotional bal-

ance, and general mental hygiene.

The National Research Council in the same year issued a bibliography on the analysis and the measurement of human personality up to 1926. Thirteen hundred titles were reported. A classification of these titles revealed the interesting fact that 56 per cent of the titles appeared in the five-year period from 1921 to 1925, contrasted with 22 per cent for the period from 1916 to 1920; 11.1 per cent for 1911 to 1915; 5 per cent for 1906 to 1910; 1.5 per cent for 1901 to 1905; and 4 per cent for the period up to 1900. These figures constitute a suggestive, objective index of the rapidly increasing literature dealing with the problems of human growth and personality.

Social as well as scientific factors are at work. Families are decreasing in size, but individual children were never more esteemed, and there is a new premium upon their healthy development. The increasing exactions of modern civilization operate in the same direction. If delinquency, instability, crime, defect, insanity, and the hazards of daily life should continue to increase, the burden might become insupportable. Society must use all possible methods to improve the health and the alertness of the human mind, which needs the strength to carry the culture that it creates. There is an element of self-preservation in the new concern for the mental welfare of the infant.

Ample protection can come only through increased knowledge of the nature and the laws of human growth. And this knowledge is coming through modern science. The scientific attack upon problems of growth has become so systematic and so far-flung that we may consider it as one of the constructive adjustments by which society is working toward a better control of human welfare.

Descendants of the Foreign-Born

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THERE are no statistics which deal in any adequate way with the war between the immigrant and his American-born descendant, so that this paper cannot be called a scientific presentation. In the nature of things there can be no figures which portray something which is both love and hate, and no science which expresses, objectively, conflicting emotions.

TRENDS OF THE FOREIGN-BORN

There is a greater social morbidity in the case of the immediate descendants of the foreign-born than in that of the descendants of the American-born. This is shown by statistics which deal with the incidence of crime and mental disease in the first generation of the American group, made up, as it is, of races which come to America from all parts of the world. The royal families of the feeble-minded—the Nams, the Kallikaks, the Jukes, and the other groups so vividly depicted in more, rather than less, imaginative way by the social histographers of our times—are American-born and bred and, in many instances, have been rooted in our soil since before the days of the Revolution; so that biological and social failure are not monopolies of the foreign-born and their first descendants.

What is not so often pointed out by these stern alarmists is that there is a great upward trend of the descendants of the foreign-born. They move from the slums where their fathers brought them to better habitations, and they also move from the humble ways of life to the highest places in the Ameri-

can Commonwealth. The same circumstances which express themselves in failure also give rise to a dissatisfaction and a display of energy which is productive and successful, as our modern criteria go. I deal here, however, with those in whom this conflict between the two generations results in this—that the younger group is forced into situations which bring about ways of life which, in their turn, produce social disaster and hurt the victim's personal and social development.

Before attributing this greater social morbidity to a lower mentality or a greater degeneration, as is often done, we must study the environmental situations to which this first generation is subjected. It is all too easy to blame the failure on heredity, to find in the foreign gangster and the foreign insane proofs of foreign inferiority and American superiority, to call out for laws excluding the alien, to break into rhapsodies of hate and intolerance, or, what is still worse, to assume an air of scientific aloofness in order to express more effectively racial prejudice.

Heredity and environment never show themselves in pure culture. In every individual characteristic and in every social result, both express themselves in an intertwined, inextricable way. No one can say of any character, however purely hereditary it seems, "This is heredity alone"; and on the other hand, no one can say of any character which seems environmental, "This is brought about solely by the environment." A great book has recently appeared which formulates this constant interaction of the interior and

the exterior forces of life. In Jennings' *The Biological Basis of Human Nature*, those who propound the futile question of heredity versus environment will find adequate answer.

CULTURAL CONFLICT

Studying the social dynamics of the situation, we come down to this as a beginning—this war between the alien and the American generations represents the conflict of personalities bred in different cultures, intensified because the theater of operations is that hotbed of love and dissension, the home. In the relationship between every two generations this conflict is present, no matter whether born in different lands or under the same roof. Every parent generation has its cultural roots in its youth and so, of course, has every child generation; but these respective youths are twenty-five to thirty years apart, during which time, especially of late, the world has moved on very rapidly.

People are more the products of their times than they are the products of their ancestors.

It is a hard thing for a parent to realize that the child is not his alone, for on that child play forces which express themselves in habits, manners, feelings, and deeds, which are in the main irresistible. Dress changes, and this becomes a battle ground. Morals change, and another conflict rages. Even the slang expressions, which represent the new kink by which the human mind looks at life, differ from one generation to another. What seems proper to the parent is "lousy" to the child.

Add to this conflict the love of power which is latent in all human beings and thus in the parent, and also the solicitude for his child, both of which express themselves in hidden, devious, and rationalized ways, and then bring into

the situation the love of independence which is peculiarly the birthright of the American child, wherever his ancestors may have been born, and we have the seeds of a jungle of battles. This battle may be hidden by love, glossed over by politeness, and repressed by the sense of duty and obligation; nevertheless it rages. If we see it present where both generations have substantially the same tradition, we may easily conceive how much more fiercely it rages where the parent and the child, though they partake of the same stock, represent Europe and America within the confines of the American home.

It is true that there are plastic parents who become more American than the Americans, and who have left their native land because of hatred of its customs and its lack of opportunities and who gladly shake off alien traditions, in so far as they are capable of doing so. There are other parents, and more of these than we realize, who remain incrustated in their foreignness throughout their lives, who never shake off the alien thought nor the alien accent by which it is expressed; who remain haters and hostile critics of the American scene, and who thus deeply offend the American patriotism which springs up in the heart of their child.

SLUM LIFE

Let us examine more of the factors in the case. Because the average immigrant is poor, he brings his child to the slums of the great city, at least in the majority of instances. He himself may have been born on a farm or in a small village; he may have lived in rural Sicily or in some hamlet in Lithuania; he may have passed his youth on a farm in Ireland. He and his descendants herd together in the crowded slums of a great American city. Thus, in large measure, his American descendant is a slum child.

Even though the parent himself has come from the crowded quarters of a large foreign city, the European slum is not the American, for Berlin is not New York, nor is Dublin, Boston.

How do the slums fashion the reactions of the child? The slum has tremendously disagreeable features in its lack of air and sunshine and its overcrowding. The slum home has few attractions, and here we come to the greatest factor in the situation. *The Street is fascinating.* The freedom of the Street becomes a lure; the university of the Street teaches many things, both useful and harmful. To some, it fosters growth of character; to others, it is destructive of the necessary organization of personality. What is learned in the Street, in the freedom from discipline and criticism, widens the schism between parent and child and, in a sense, the conflict may be symbolized as a conflict between the Home and the Street.

The Street is a university where slang is the mother tongue. The alien parent, if he is the intractable alien, listens to the talk of his child with horror and disgust. To him, it is profane and obscene. It represents the antithesis of the learning he hoped his child would obtain. It confirms him in a belief which he secretly cherishes, that America is no good. Disillusioned by his own experiences with his new country, and afflicted by a nostalgia which, despite the fact that he emigrated, still grips him when he thinks of his homeland, the land of his youth, he does not approve what he does not understand. The rapid-fire speech of his child widens the parent-child gap, since it obscures communication.

No one who has not tasted the freedom of the streets, especially if his home is dark, small, and crowded, can understand the lure of the Street. The Street means the freedom of the city—

a wandering from place to place with a gang, for street life soon becomes synonymous with gang life. It is only in recent years that the Gang has been studied as a great social institution. The Gang represents the first voluntary association of human beings, and it rapidly evolves to a culture with codes, ideas, and ethics of its own. Each juvenile gang formulates and fashions the juvenile attitude toward life and toward the adult society of which it is not yet a full part.

The member of the slum gang rapidly learns things which the sheltered child hardly knows. He learns to outwit policemen, since the very presence of a street gang is a contradiction of law and order. He learns about sex and its vagaries long before his own adolescence is reached. In the gang life of the poor of the crowded cities a predatory element sooner or later necessarily enters. The homes of these children are barren of good things and they see on every side much accessible wealth. Necessarily, the adventurer in the art of taking things that belong to others, the adult thief, mingles with them, since petty thievery has its scene in the streets. Almost every Gang in the city slums finds the excitement of stealing a great lure.

Those who are steady of purpose and who are fundamentally well organized, yield for a time to the irregular life and the predatory habits, but swing back to the main currents of society as they build up the organized purposes of adolescence and adult life. The less well organized fall into crime as naturally as they have sought the Street as a relief from the Home.

THE STRUGGLE FOR POWER

The lure of the streets is intensified by the struggle for power within the Home. No one understands life or the difficulties of reform who does not take

into account the lust for power found everywhere. The very young child is at the mercy of his parents and has only the power which his emotional expression gives him. Many a man who has no power elsewhere, who is a slave in the lowest rank of the industrial hierarchy, has one place where he can exercise power, his own Home, over his wife and his children.

The alien parent more often subscribes to the belief that a child must obey than does the American parent. The American child, no matter where born, in our day and generation says, "Oh, yeah!" to this claim for power. Constant fighting becomes monotonous so the child seeks refuge from the battle on the Street, where, at least, he deals with his peers in the struggle for power, where he has some chance of reaching distinction by virtue of his abilities, whether those abilities express themselves in fighting, singing, or stealing.^{1a} The Street becomes magnified in fascination as a result of the will to exercise power on the part of the parent and the rebellion of the American child.

As the child grows to equal stature physically, as he becomes industrially and economically independent, the struggle ends in most instances by a tacit truce. The child goes his way, the parents go theirs. The workshop, the factory, the office, and, in some instances, the university, take the child from the streets. He passes on to the organized phases of life. He becomes more akin to his parents in that he understands their difficulties more, and also because they can no longer exercise tyranny.

But the less well organized or the more reckless have by this time bound themselves to a career of shorter or greater duration which threatens them with social harm. They are immersed in a pool of emotions, traditions, and

deeds which lead to social disaster. This battle is not of their own creation, although they contribute to it. Already they have had serious conflicts with organized society. They are enmeshed by habits which make organized life monotonous. The excitement of the Street is an opiate which they crave, and their incarceration in Houses of Correction merely intensifies that craving.

It is idle to say that these young people are the victims of their own natures. Necessarily every one is, and the stream of personality can rise no higher than its congenital springs; but it is easily conceivable that had they lived elsewhere than in the slums, had there not been an alien parent, had the Street not been so utterly fascinating in its kaleidoscopic attractions and its freedom from deep discord, they might have moved on to the full stature of their capabilities—to a decent place in an organized society. Society, which itself is responsible for the Street and the slums, intensifies the war between the generations, and fundamentally it gets, in this difficult American generation of the immigrant, what it deserves.

EFFECT OF PARENTAL INFERIORITY

Thus far, I have not spoken of a certain factor of importance which intensifies the disharmony between parent and child generation. The immigrant carries with him those mannerisms, accents, and dress which lead him to be classified by Americans as a "Mick," a "Wop," a "Kike," or what you please. His descendant may hide, though he often shows, what he really feels—shame. The young child especially is likely to feel the inferiority of his parent as a personal injury. He knows he should admire, respect, and love his parents, for so he has been taught in the schools, in the churches, and in books. The sacredness of the

father and the mother is instilled into him wherever he goes, as a holy phrase of the world. He may succeed in covering over this shame, or to put it in another way, he may succeed in overcoming it.

Where there is wisdom and tact in the acts and the attitudes of the foreign parents, this shame is swamped and becomes of no importance. It may even lend a piquancy to the relationship. But where there is no wisdom or tact, these being rare human qualities, shame comes to the surface and expresses itself in words and in mimicry which lead to the worst dissensions, in that the ego of the parent is most deeply wounded.

The normal child adjusts himself to this shame which he feels by something which can only be called adequate hypocrisy. He accepts the ideal of parenthood, realizes the inadequacy of his particular parents, and endures the schism between reality and fiction well enough. For some, the schism is too great to be borne, and a bitterness results which leads either to neurosis or rebellion.

I have spoken of the parent as if there were only one, whereas there are usually two. They may show a united front against the child; but more commonly one or the other is sympathetic toward him, at least in some measure. The stern, unyielding father is, to some extent, mitigated by a more tolerant mother who sneaks in, so to speak, love and understanding and holds the child

to the Home, or else the nagging, scolding mother has as a mate a man who has grown in the direction of Americanism, and who secretly or openly aids and abets the child.

Instead of two parties, there may thus be three. This may serve to keep the child in the Home because it may give him one bond, although there should be two. On the other hand, the division of the parents may reach such an extreme of warfare that the child becomes disgusted at the disunion he himself has helped to create, and often finds the parent who means to help him more intolerable than the one who is against him.

THE SOCIAL RESULT

I do not mean to imply by all this that the difficulty between the alien parent and the American child reaches an extreme in most cases, or that alien homes are less tender and gentle than are American homes. Adjustment and compromise are the rules in life, and therefore they take place in most instances. In others they do not, and then the war reaches disastrous proportions. Some children are forced into a precocity which leads to success or to nervous failure—to success if they are strong and to nervous failure if they are weak. Others form attachments, habits, and ways of life of which the full measure is reached when society lines up against them as they offend it, and of which the measure of disapproval is summed up in the word "criminal."

New Aims in Adoptions

By ORA PENDLETON

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Alice never could quite make out, in thinking it over afterwards, how it was that they began; all she remembers is that they were running hand in hand, and the Queen went so fast that it was all she could do to keep up with her; and still the Queen kept crying, "Faster! Faster!" but Alice felt she *could not* go faster, though she had no breath left to say so, . . . "Now! Now!" cried the Queen, "Faster! Faster! . . ." Just as Alice was getting quite exhausted, they stopped, and she found herself sitting on the ground, breathless and giddy. . . . "Why, I do believe we've been under this tree the whole time. Everything's just as it was!" "Of course it is," said the Queen, "what would you have it?"

"Well in *our* country," said Alice still panting a little, "you'd generally get to somewhere else—if you ran very fast for a long time."

"A slow sort of country!" said the Queen. "Now, *here*, you see it takes all the running you can do to keep in the same place. If you want to get somewhere else, you must run at least twice as fast as that!"—*Through the Looking Glass*.

DURING the dozen years since the war, we have been running "at least twice as fast as that" in our effort to "get somewhere else." The whole tempo of our civilization has been amazingly accelerated. Growing out of our need to deal sanely with the complicated situation has come a realization that our adjustment to present-day problems must be made with conscious purpose. We must try to understand and direct our desires and motives, and achieve some objectivity about ourselves and our relation to others. Many of the concepts of behavior and dogmas of theology that served our forebears no longer

satisfy us. Our problem is to adapt ourselves to changing conditions without surrendering faith in certain fundamental truths.

Courageous acceptance of the difficulties of adult adjustment indicates that our early training has either fortified or weakened our resistance to some of the disintegrating influences of a highly industrialized era. This brings us face to face with our children. How can we guide them to a maturity that will enable them to meet such an increasing complexity of demands? The postwar cross currents of thought and feeling have stimulated our awareness to every phase of child welfare and education.

THE CHILDREN NEEDING ADOPTION

Child adoption concerns comparatively few children—and parents. But for those involved it is as fundamentally important as marriage or birth. The number is small only in relation to the total population. On the basis of 1926 birth registrations, some 500,000 children were born of unmarried parents during the last decade. Accurate figures are not available. Many of these children have died or will die from neglect in their early years. An uncertain number—possibly larger than any of us suspect—will remain with their mothers or kin. The remainder represents our one important source of supply for adoptions.

The standards of social work surrounding the care and the treatment of these children, whether adopted or not, vitally affects the whole field of child welfare. In states or communities

that permit easy, irresponsible separation of these parents and children, we find the child welfare program out of focus. The states that today are leading in the field of foster care in families—or institutions—have thrown special protection around such children.

What we may call a philosophy of adoption is of great importance in outlining the trends and the accomplishments in children's work since the war. Let us attempt to give expression to this philosophy. Fundamental to it is the belief that individuals directing or aiding in the process are but playing a part in an infinite scheme—a part, however, of vital importance to the future well-being of the child, of his own parents, and of those adopting him. Only by understanding the causes that lead to separation from parents, the motives, the attitudes, and the needs of foster parents, and the health, the capacity, and the personality of the child, can this part be intelligently played. It is the duty of those who assume this responsibility to equip themselves with all available knowledge and skill, and to utilize every resource the community affords.

Much has been published covering various phases of the subject. Thorough studies of the legal aspect have been made in several states—notably Massachusetts,¹ Pennsylvania,² Illinois,³ and Ohio⁴—with a view to better laws or better administration of existing ones. The New York State Char-

ities Aid Association has contributed an interesting analysis of 910 children placed in foster families—269 of these legally adopted—over a period of twenty-five years.⁵

Quite recently there has been a flood of popular articles on the subject in magazines and newspapers. These range from the intelligent and thoughtful approach of Honoré Wilsie Morrow to the sentimental dribble of a writer who pictures eager babies waiting by the dozen in drab orphanages for heart-hungry parents to drop in and select one, much as they would choose a puppy in a pet shop! They include much that really is harmful, because of its subversive nature, in publications issued by certain commercial maternity homes.

INDIVIDUAL APPROACH NECESSARY

In our approach, we can follow no hard and fast routine—it must be fluid. As soon as we crystallize formulas, something is lost. The one principle to follow is that each situation has inner values which we must seek to discover. Infinite harm has grown out of the fact that one group has proceeded on the basis that every unmarried mother must keep her child, while another contends that no unmarried mother can provide a safe, happy future for her child.

At one extreme we have the old-school type of social agency rigorously putting each unmarried mother—and father, if he is available—through a sort of third degree, little sensing that there are things inviolate in the human soul; forcing mother and child into a condemning world with which they are wholly inadequate to deal. The only relationship that can be built up by force between an unmarried mother

¹ Parker, Ida R., *Fit and Proper? A Study of Legal Adoption in Massachusetts*, Boston: Church Home Society, 1927.

² *Report of the Commission to Study and Revise the Statutes Relating to Children, 1925, on Legal Adoption in Pennsylvania*. Part 1, pp. 61-177.

³ Nims, Elinor, *The Illinois Adoption Law and Its Administration*, Social Service Monographs No. 2, University of Chicago Press, 1928.

⁴ Cole, Lawrence C., "A Study of Adoptions in Cuyahoga County," *The Family*, Vol. 6, pp. 259-264, Jan., 1926.

⁵ Theis, Sophie Van Senden, *How Foster Children Turn Out*, State Charities Aid Assoc., New York, Pub. 165, 1924.

and her child is a feeling of guilt. We no longer execute these mothers or brand them with scarlet letters, but we still exact heavy penalties. Society has built defenses around the sacrament of marriage which make the road for those outside its pale a stony one.

At the other extreme is the commercial maternity home, organized for money-making, and cloaking its real function with a perverse humanity. Under the guise of protection for the mother, it surrounds her with a secrecy built on deceit which cannot possibly help her with her problem, but which thrusts a practically unknown child into an equally unknown home, and then rings down the curtain.

In line with this type of maternity home, we have private individuals who run an underground bootlegging business in babies. Usually, though not always, they are highly emotional women, seeking satisfactions which their own lives fail to supply. Many of their transactions are almost hysterical in nature. They are not in any way equipped to give the unmarried mother constructive help or to insure the wise selection of a home for any child, usually knowing little of the background on either side.

PROBLEMS OF PHYSICIANS AND LAWYERS

Unfortunately, many physicians of good standing, with problems of illegitimate births in their private practice, have recourse to both of these pernicious agencies. One reason for their hesitation to consult the social worker in such cases is that, though sound and skilled in medical practice, they may have little or no knowledge of good social practice, or may even be unaware of its existence.

No well-trained social worker would presume to officiate at the birth of a child or to call in a midwife if a doctor

were available. Yet many doctors do not hesitate to perform this most difficult social operation of placing a child for adoption, or, failing in this, to call in a social midwife. The same is true of many lawyers.

Part of the blame for this, however, rests with the social workers. They have failed to educate the community to what can and should be expected, and have been too dogmatic and unyielding in their treatment of the problem. The conscientious physician who refuses to perform an abortion for the unmarried pregnant girl faces a difficult problem. He must offer her another solution. The lawyer frequently finds himself in much the same predicament. Both should be able to turn to the trained social worker, confident of receiving understanding help for patient or client. This will come only when doctor, lawyer, and social worker are aware of one another's problems and points of view and the special skills of each profession.

The first questions arising are, who shall decide whether or not a mother shall give her child for adoption, and when should this decision be made? Only the mother herself can answer, and before so doing she must be given every help to work out her problem. Time is a vital element—time to test her own strength and ability to face the difficulties involved. Many a mother has met this situation with success for herself and her child, with or without the help of agencies. Others are utterly unfitted to do so.

PARENTAL LOVE IS FIRST CONSIDERATION

The important thing in the long run is the quality of the relationship between the mother (or father) and the child. Every child has a birthright to parental love. If he cannot receive it from own parents, then we must try to

supply a substitute. But the writer believes that no mother should be forced, or even allowed, to give up her child under an emotional strain which paralyzes her ability to face the issue clearly. Logically carried out, this will mean, in almost every case, some arrangement for temporary care of the child either with or away from the mother. It is not difficult for the well-organized agency to make such provision, which will prevent many subsequent tragedies. It is a protection to both mother and child. In this connection, the following story is illuminating.

A married woman of thirty years came to a children's agency in a large city, seeking advice in finding her baby, illegitimately born in a private ward of one of the best hospitals in that city, during her last year at college. Reputable doctors and clergymen had counseled with her at the time. No member of her family knew of her situation—she had told only a college friend. Physician and clergyman had advised that, all things considered, it would be best for her to give up her baby, arguing that to keep it would blight her own life and place the child under serious stigma. They felt that it would stand in the way of marriage; that a man of right ideals could not accept a wife with previous sex experience, particularly if a child had been born. In view of this advice, she had agreed to surrender her baby for adoption by parties unknown, and it had been taken from her at birth. She never had seen it afterward, promising at the time that she never would try to see it.

Shortly after the baby's birth, the mother returned to college, finished her studies, and was graduated with full credit. She was a person of means, and subsequently married a man with whom she was congenial and happy.

Her husband was anxious for children, but for some reason none were born to them.

A few years after their marriage, something in a sermon they heard impelled the woman to tell her husband of her baby, its surrender for adoption, and the fact that she had heard nothing about it since the day it was born. To her surprise, he did not feel that she had committed an unpardonable sin; he said there were things in his own past life of which he had never told her. His one thought was, "Where is the baby? We must have it!"

All efforts to get information proved fruitless. Since the adoption had been legally made with the mother's full consent, nothing could have been done without the possibility of seriously harming the child. She concluded the interview with: "Well, I suppose the only way I can ever get a baby will be to treat some other unmarried mother as unjustly as I was treated. I thought my advisers spoke from wide experience. Now I know they were amateurs, probably acting as emotionally as I was. I can only hope that social work will reach the place where an unmarried mother giving up her child may have intelligent advice and at least reasonable time to consider what she is doing."

Thus far, we have said much more of the mother than of the father. The same general principles should hold in regard to each, but with unmarried parents, usually the mother has the problem to solve. There are, however, unmarried fathers who have a sincere affection for their children, and their feeling should be respected and protected.

REQUIREMENTS FOR SUCCESSFUL PLACEMENT

When it has been decided to place a child for adoption, we face the difficult

task of finding an environment which will provide complete security, thus aiding him to function effectively not only as a baby, but also during adolescence and adulthood. There is only one way to do this—to *know* the child and *know* the home—not being satisfied with the outer picture each presents, but striving to evaluate the complex inner life which we call personality.

At best, our evaluation will be limited, but there are guides for us to follow. As we work out the problem of separation, we are studying our child. This study will be more satisfactory if the child is in as normal an environment as possible; namely, a family home. Every skill the medical profession has to offer should be brought into play. This is generally accepted. The contributions which psychology and psychiatry have to make are not so generally accepted, because they are not so well understood.

Dr. Arnold Gesell, followed by others, has convinced us that it is possible to measure intelligence in infants and very young children.⁶ In a plan involving the whole future life of a child, one measurement seems hardly enough; it can be too easily influenced by physical and environmental factors. There should be several if we are to have any degree of assurance. It is the rate of development that we must know in order to estimate the intellectual capacity of a child.

The field of psychiatry and psychoanalysis is constantly increasing our awareness of the subtle factors of personality. We continually borrow from it. We may not take our child to a psychiatrist, but we bring to an under-

standing of him much that the psychiatrist has given us. How does the child react emotionally? What factors are conditioning his reactions? What are his particular needs? If we are to find the right parents for him, we must have some understanding of his behavior.

If we have approached our problem intelligently, we will know the social background. This is important. The whole question of background is a controversial one, because it involves the old question of heredity and environment. How far do certain physical diseases, feeble-mindedness, insanity, immorality, or degeneracy carry on into another generation? There are many viewpoints. In matters of adoption, these questions loom large. They must be decided on an individual basis, in consultation with physician, psychiatrist, and social worker, if need be. There are many contributing factors which need to be understood. One thing is certain, in making any intelligent plan for a child we should make use of all available data. It is for his protection and that of the adopting parents, who have the right to knowledge as nearly complete as possible.

Just here a word might be said of foundlings, about whom no definite information is available. Many of the happiest adoptions have been made from this group, but there also is a certain percentage of feeble-mindedness. In fairness to the child and the adopting parents we should perhaps give the unknown child a little longer to establish his own level of development before placing him permanently.

TIME ELEMENT IMPORTANT

In this whole matter of giving time and opportunity to correlate the physical, intellectual, and social factors and the personality of the child to be adopted, there are two points at issue. On the one hand we have the conten-

⁶ Gesell, Arnold, *Psychoclinical Guidance in Child Adoption*, U. S. Children's Bureau, 1926, "Reducing the Risks of Child Adoption," *Bulletin*, Child Welfare League of America, May 15, 1927.

tion that there is great emotional value, both for adopting parents and for the child, to place him when he is a very tiny baby. This is true. On the other hand we cannot escape the fact that such placement increases the risks. We cannot know the baby of six weeks as we know the one-, two-, or three-year-old. After that age, of course, the problem of adjustment becomes increasingly difficult.

It must be clearly borne in mind that there is as much risk for the child as for the parents; hence, a thorough knowledge of his needs and capacities which will lead to wise selection of a home is as much a protection for him as for foster parents. The lay public often fails to recognize this fact. A misplaced child, either overplaced or underplaced, often becomes the center of a tragedy. In our present stage of social development, overplacement is more likely to occur than underplacement. To subject a child to a lifetime of failure to meet the requirements of his family and community is a refinement of persecution.

The more intimately we know our child, the more searching must be our selection of a family for him. There is good material available on the subject of foster-home finding, involving certain fundamentals that may well be recapitulated here.⁷

MUST KNOW FOSTER FAMILY

We must learn to know both of the parents and other members of the

immediate family pretty intimately, though our approach should always be objective. We must be more concerned with their inner than their outer world. What of their spiritual life? Have they religious concepts that satisfy them? Have they anything constructive in this respect to offer a child? Are their relationship to each other and their attitude toward life in general wholesome? Do they want a child in order to work out problems of their own thwarted lives, or in order to share their love with him, thus making both his life and theirs richer and more effective? What have they to give, and what do they expect to receive in return? Have they the capacity to understand and train a child unselfishly and wisely?

This insight will be gained chiefly by talking to the members of the family themselves, not once but as often as need be to carefully evaluate all the emotional factors. Also, there is value in thoughtful personal interviewing of references. This corroborates and amplifies our own analysis of a situation, and, what is more important, gives us an insight into the community into which we are projecting the child, who will be affected by its aims and standards as well as by those of the family. By community we mean friends, relatives, and neighbors; the little group in which the child will develop his social life. We should know what type of children he will have to compete with. All this will broaden our conception of the aims, the ambitions, and the interests of the family.

The social and economic status of the prospective foster parents is also a determining factor, though of secondary importance. It is necessary to know whether there is sufficient financial stability to carry a child through the normal period of childhood, giving

⁷Doran, Mary Susan, and Reynolds, B. C., *Selection of Foster Homes for Children*, Studies in Social Work, Monographs in Child Welfare No. 1, New York School of Social Work, 1919; Theis, Sophie Van Senden, and Goodrich, Constance, *The Child in the Foster Home*, Studies in Social Work, Monographs in Child Welfare No. 2, New York School of Social Work, 1921; Towle, Charlotte, "The Evaluation of Homes in Preparation for Child Placements," *Mental Hygiene*, Vol. 11, pp. 460-481, July, 1927.

him the education he will need for his best adjustment. This will vary greatly, with some being less than eighth grade, while others demand a college or technical degree.

The simplicity of the home is by no means a detriment; in some cases it is the rock on which the child builds his security. It is of primary importance to know what kind of child will most completely meet the needs of the adopting parents, because that will be the child to whom they can give their best. Will their emphasis be on intellectuality, manual skill, or ability to make easy and happy personal adjustments?

Only when we have reached the point of understanding the child and knowing the inner value of the home can we bring the two together in the process we rather glibly describe as finding the right home for the right child. The final choice will, of course, rest with the adopting parents, but we should give them all the information we have acquired, honestly interpreting it to the best of our ability.

INTERVAL OF ADJUSTMENT

Unlike the fairy story, adoption placements do not end with—"and so they were married and lived happily ever after." The period following placement calls for the most delicate skill on the part of the social worker. It is essential that there be an interval of adjustment between the child's entry into the home and the legal consummation. Good practice and experience suggest a year as a minimum. Frequently more time is needed. This usually is referred to as a period of supervision, but it is more properly one of mutual education and interpretation. Through it the social worker broadens and deepens her own experience, and the foster parents are helped to a more complete understanding of and sympathy with the child.

With a baby this process may be quite simple; with an older child it is often more difficult. Many questions arise in either case, an inevitable one being what to tell the child of his position in the family. The knowledge with which a person grows up is almost invariably accepted without question or disturbance; it is the discovery of a hidden thing that is devastating. Parents' fear of telling a child he is adopted frequently is based on their own feeling of insecurity in the relationship, and sooner or later this feeling will be communicated to the child. The social worker must help the parents to such a complete sense of security that neither they nor the child will be conscious that the relationship differs from the natural one.

The foster parents and the social worker must decide together when the time is ripe to make the child a legal member of the family by court action. This should come when outside help no longer is needed, and the social worker should withdraw, leaving the family equipped and eager to face their responsibilities. If the contact between them has been a happy one, as is usual, the way will be left open for the family to come back for advice, should the need arise, or for the agency to return at some future date to measure the success of its work.

LEGAL ASPECTS

The actual legal process of adoption varies in different states. Each state has laws relative to adoption embodied in its legislation.⁸ These differ widely, but it is gratifying to note that a majority of the states have amended or rewritten their adoption laws within the past ten years. Others are in

⁸ Peck, Emelyn Foster, *Adoption Laws in the United States*, U. S. Children's Bureau, Pub. 148, 1925.

process of doing so. In its formulation and administration, the efficacy of the law is largely dependent on the general standards of child welfare that exist throughout the state.

While there is room for far better legal practice than obtains in many instances, a general advance has been marked. The need for legally safeguarding the rights of child, of parents, and of adopting parents is well recognized. Such practices as adoption by deed have been discontinued in most states. There is difference in opinion and practice as to which court should have jurisdiction in adoptions. Certain groups have wished to see them dealt with by the juvenile and domestic relations courts. The more generally accepted view, however, is that this power should be kept exclusively in courts historically dealing with matters of probate.

Adoption is fundamentally an American institution. At the moment it is a very popular one. It could have reached its present status only in a new country. It requires a somewhat fluent social order, since it is based on belief in the worth of the individual without regard to inherited position. A far different feeling exists in Great Britain and European countries, with their fixed social order. Even so, the postwar years have wrought changes in attitude even in those countries. England enacted its first adoption law in 1926.⁹ In Canada, the situation more nearly resembles that existing in the

United States—that Dominion has an adoption law comparable to some of our own state laws.¹⁰

CONTRIBUTION OF SOCIAL WORK

Social work, like medicine, must place its emphasis on prevention. While the immediate need may be curative, the broader vision must not be ignored. Its primary function is interpretive. It borrows constantly from the fields of education, medicine, psychiatry, law, and sociology, and in return supplies new material to widen the scope of these sciences. Social welfare agencies are laboratories for the allied sciences, but perhaps their greatest contribution is to the realization of the fundamental similarity of human beings wherever found.

Position, wealth, education, may change forms of expression, but the underlying needs and motives of individuals are pretty much the same. Adoption forcibly emphasizes this universal fact, and a community whose child welfare activities include a good adoption program gradually becomes conscious of it. The successful transplanting of children from one social level to another stimulates sympathy and understanding, and helps to bridge the gaps. The war, with its many opportunities for new contacts, gave impetus to such mutuality, and the years in its wake have marked a steady and encouraging growth of this fellowship of feeling.

⁹ Myers, Earl D., "The English Adoption Law," *The Social Service Review*, Vol. 4, No. 1, pp. 53-63, March, 1930.

¹⁰ *Child Welfare Acts of Ontario, 1927*, Chap. 189, amended in 1928, Chap. 29, Children's Aid Branch, Provincial Secretary's Department, Toronto.

Children Born Out of Wedlock

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THESE children that slip in by the back door, Papa Juan called them in the charming play by the Quintero Brothers. And the noble old Spaniard said of these children, "Queer isn't it! Nature seems to know she must treat them better . . . because we shall treat them worse."

Truly, society has accorded to children born out of wedlock treatment less kind than that accorded other children. A review of the plans for their care in use at different periods of time serves to place in relief the programs and the principles involved in the trends of today.

BACKGROUND OF METHODS OF CARE

The first organized method of care appears in the foundling homes of the Middle Ages—a measure initiated when the lives of great numbers of the babies were in jeopardy. Prior to these, there was no definite plan for care of children born out of wedlock, though as far back as ancient times, certain ones were adopted. In Greece, children of heroes were adopted into patrician families. Adoption of abandoned children was practiced among the Jews. The children and their mothers have always suffered severe discrimination and injustice. Doubtless, children born out of wedlock formed a goodly proportion of the unwanted infants exposed in times and places in which these methods were practiced.

Foundling homes spread from Italy and France to other European countries and were later supplanted in England by almshouses. This provision was carried over into the American Colonies.

Private maternity homes for medical care and social assistance to the mothers and the babies succeeded these. Volunteer groups, usually identified with the churches, were dissatisfied with the indiscriminate mingling of infants in almshouses with older persons who often presented serious health and other problems; so they developed maternity homes, beginning about the middle of the nineteenth century.

A fairly distinct cleavage marks a separation of the maternity homes into two groups, based on their motives. One group of homes early concentrated on missionary work with the mothers, and these developed a policy of discharging all the babies with their mothers. It was believed that the child would be a potent factor in holding the mother to new ideals acquired through the influence of the home; that he would completely fill her life and leave no void or desire for her former associations. The other group of homes was motivated by a desire to protect the mother from public knowledge of her motherhood. These homes early developed the practice of retaining the babies for care after the mothers were discharged.

Later, the commercial home entered the field, ostensibly to give the unmarried pregnant girl complete privacy and protection. Actually, institutions in this group have often been found to be profit-making enterprises, commercializing the misfortune of their clients.

Today, a marked departure from the early methods of maternity homes is noted in the programs of institutions and agencies rendering service to chil-

dren born out of wedlock. Stereotyped procedure is less apparent. The aim is rather to work out adjustments for the children securing for them some measure of approximation to the care accorded children more happily born.

Several factors have influenced these changes. One of them is the high death rate among babies separated at a very early age from their mothers. Another is the frequent need of the mothers and the children for guidance in making adjustments in the community. Knowledge of the facts in regard to practices of commercial maternity homes has awakened the public to a sense of community responsibility for this group of children. Social case work has shown the value of individualized treatment. Modern child study is promoting an appreciation of the factors in the child's life and environment which have an influence on his development. Today, the maternity home is but one of the social agencies in the field of service to children born out of wedlock. Family welfare and child caring agencies, health organizations, child guidance clinics and other community agencies render service to them.

THE PROBLEM

Statistics in regard to the number of births out of wedlock are still very inadequate in the United States. Such improvement as has been made during the past decade is part of the general improvement in birth registration. The United States Bureau of the Census reports a steadily increasing number of the states in the birth Registration Area through the ten years. At the beginning of the current year, there were forty-four states and the District of Columbia, as compared with twenty-three states and the District of Columbia in 1920. The four states not in the area are New Mexico, Texas, South Dakota, and Nevada.

Data are not yet available for the year 1929. For 1928, the Bureau of the Census reports 2,233,149 live births reported by the forty-four states and the District of Columbia. This territory includes 95.4 per cent of the population of the country. Of this total number of live births, 63,942 were reported as illegitimate. No figures for California and Massachusetts are included in this number, because in these two states the statistics for legitimate and illegitimate births are not kept separately.

Through the ten years, the rate of illegitimate live births per 1000 live births varies from 21.4 to 28. The increase may be explained by improvement in birth registration methods and recording of vital statistics.

Illegitimacy is a problem of youth. The great majority of the mothers of children born out of wedlock are under twenty-five years of age and almost half of them are under twenty-one years. While the age groups for the fathers of such children fall somewhat higher, these fathers are, in the main, young men. Illegitimacy rates are higher in urban than in rural areas; higher among colored women than among white women; and higher among native white women than among those of foreign birth. Certain variations are noted in the numbers of mothers of the different nationalities among the foreign-born women, and the number of negro mothers is considerably higher than that among other colored groups. Through the ten-year period, little variance appears in these factors as shown in the reports of the Bureau of the Census.

MODIFYING FACTORS

The variances in regard to racial and national backgrounds, the customs of different groups, and their different definitions of illegitimacy, require some

modification of the viewpoint of the American social worker. The same approach to an unmarried mother cannot always be made—a fact which is sometimes not taken into consideration in the case work treatment. In certain sections of the United States, varied elements in the population point to an approach based on consideration of their customs and attitudes, thus varying somewhat the methods practicable in different communities.

Children born out of wedlock form a considerable portion of the volume of the work of all health and social agencies touching child dependency, neglect, and delinquency. The death rate among them is found to be higher than that among babies born in wedlock, due presumably to separation from their mothers. The number of children born out of wedlock in care of private and public child caring organizations is usually found to be quite out of proportion to the illegitimate birth rate.

The factors influencing this situation are significant, and point to one of the vital aspects of the whole problem of illegitimacy. This is the social fact of the deprivation, for many of these children, of normal home life with their own people—the fundamental right of every child. Many of the mothers are young and unable to meet the maintenance costs of the children. Employment opportunities for them are more limited than for other women. In many cases, no share of the burden is borne by the fathers. Therefore, private charity or public relief must meet the need. In their effort to conceal the facts, relatives of the babies often place them with unsuitable caretakers, who quickly divest themselves of responsibility when board is not paid or when the child gives trouble, which happens with the older ones. Children of legitimate birth are usually treated

with more consideration by their families.

THE PRESENT PROGRAM

The present program for protection of children born out of wedlock comprises three main elements: health, social, and legal measures. These are closely interwoven and interdependent. Provisions of one have often grown logically out of one or both of the others. Beginning with the Minnesota code enacted in 1917, which declared it to be the duty of the state to safeguard the rights of the child born out of wedlock, other jurisdictions have enacted laws and promulgated official regulations toward this end. In contrast to the Minnesota ideal, the statutes of other states have sought to protect the public purse by making the parents responsible for the child's maintenance.

The Maryland law of 1916, which surrounds with certain safeguards the separation of a baby under six months of age from his mother, was one of the early instances in the United States of recognition by law of the modern attitude toward greater public responsibility for protecting children born out of wedlock.

This law grew out of the discoveries of the Maryland vice commission in regard to the exceedingly high death rate among babies taken from their mothers at birth or soon after, and the unwholesome practices in regard to placement of the babies by certain maternity homes, chiefly commercial ones, and by private individuals supposedly operating in the interest of unmarried mothers and their babies. The Maryland law was followed by similar laws and by official regulations with a like purpose in other states.

Statutes and official regulations providing for the supervision of child caring agencies and institutions, now in effect in thirty-five states, afford a con-

siderable measure of protection to children born out of wedlock.

The standards adopted by the child welfare conferences held in 1919 by arrangement of the United States Children's Bureau call attention to such children as presenting a very serious problem and therefore requiring special protection. The safeguards prescribed in these standards include: responsibility of both parents; care and breast feeding by the mother; requirement for proper legal procedure, with record, for the placement on surrender of a child outside of his own family; suitable provision for establishing paternity; treatment of mother and child to include good medical supervision and opportunity for wholesome, normal life.

Regional conferences were held in Chicago and New York in 1920 under the auspices of the Children's Bureau and the Inter-City Conference on Illegitimacy to consider legal standards for the protection of children born out of wedlock. The chief recommendations in their resolutions pertain to birth registration, paternal responsibility, inheritance from and use of name of father, legitimation, care of the child by the mother, and state supervision.

RECOMMENDATIONS

Birth registration: All births should be registered. For illegitimate births the name of the father should be entered only after his written acknowledgment or adjudication of paternity. There should be provision for reporting adjudication of paternity to the birth registration office. The records of illegitimate births should be confidential and not open to inspection. Transcripts of birth records should not disclose the birth status, and such information should be issued only on court order. Births not clearly legitimate should be reported to a public

agency having responsibility for child welfare.

Paternal responsibility: Proceedings to establish paternity should be instituted by the mother or by a public agency, if advisable in the interest of the child. The law should provide for either a criminal or a civil proceeding, as the special case may require. The court having jurisdiction should have a staff of social case workers. Proceedings should be informal and private. The father should make provision for care, maintenance, and education of the child. The court should have continuing jurisdiction with reference to custody and support during the child's minority. Settlements should be in the discretion of the court, and settlements outside of court should have the court's approval.

Inheritance and name: After establishment or acknowledgment of paternity, the child should have the same rights of inheritance as the child born in wedlock, and the use of the father's name should be permitted.

Legitimation: Subsequent marriage of the parents should legitimate the child, and the issue of void or voidable marriages should be by law legitimate.

Care of the child by the mother: Whenever possible, the mother should be persuaded to keep her child, at least during the nursing period. Careful consideration should be given to means by which the mother may receive assistance if she is unable to maintain the child. Steps should be taken to secure for the mothers the benefits of the so-called mothers' pension acts.

State supervision: The obligation of the state to protect the interests of the child is recognized. With due allowance for local differences and needs, there should be state departments having responsibility for child welfare, whose duties include the assistance of unmarried mothers and

their children. No parent should be allowed to surrender the child for adoption, to transfer guardianship, or to place out the child permanently for care, without the order of a court or a state department, made after investigation. The state should license and supervise all private hospitals that care for unmarried mothers for confinement, and all private child caring and child placing agencies. With full opportunity for the development of private initiative, there should be cordial cooperation between the private organizations and the state.

The health, the social, and the legal standards evolved from the deliberations of the various groups under the leadership of the Children's Bureau may well be regarded as a platform for the protection of children born out of wedlock, the achievement of which is a desired goal in child care and protection throughout the United States. Group thinking in terms of a national program will be further stimulated by the coming White House Conference on child health and protection. A section of this conference is giving particular attention to the problems of children born out of wedlock.

GAINS IN THE PAST DECADE

Some progress has been made during the last ten years in each of the three parts of the program outlined. In social practice and in public acknowledgment by means of statutory enactment and official regulations, gains are noted in the health, the social, and the legal measures.

Reports of the United States Children's Bureau have emphasized the high death rate among babies born out of wedlock in comparison with those born in wedlock. These reports have had a marked influence in many communities on the practices regarding separation of the babies from their

mothers. A publication of the bureau in 1925—publication No. 144—points out considerable difference in the rates where measures were taken to prevent early separation. In Baltimore, the ratio between deaths of infants born out of wedlock and those born in wedlock was practically cut in half—from 3 to 1 for infants born in 1915 to 1.5 to 1 for infants born in 1921. This saving of infant life was apparently due to the Maryland law enacted in 1916, preventing the separation of babies from their mothers.

Information from other places, while not available in the form of published reports of such intensive studies as the Children's Bureau inquiry, points to similar reductions wherever measures have been instituted providing better opportunity for care of the babies by their mothers during the early months of life. Policies providing such social assistance as will enable the mothers to keep their children are being established in an increasing number of places. Maternity homes and hospitals do not effect separation to such an extent as formerly. There is a growing tendency on the part of child caring institutions and placing agencies not to accept very young babies for care without their mothers.

Mothers' aid laws in Michigan, Nebraska, and Tennessee specifically authorize aid to unmarried mothers, and in some other states the law may be so applied. In eight states, the law is general enough to meet these needs: Washington, Maine, Massachusetts, Rhode Island, Nevada, New Hampshire, Colorado, and Indiana.

Workmen's compensation laws in twelve states and Hawaii include children born out of wedlock in their provisions. Nevada includes any such child. Colorado, Idaho, Indiana, Kentucky, Louisiana, New York, New Mexico, Vermont, and Hawaii include

children of unmarried parents who have been acknowledged by the father. Montana, Oregon, and Washington include only children who have been legitimated before the injury.

The general program of child health begun with the Children's Year gave further impetus to the protection of the health of these babies by breast feeding and care by their own people. The Federal Maternity and Infancy Act of 1922 made possible a nation-wide program which insured to many of these babies better opportunity for health, with a lessening of the hazards to which they have been subject. Establishment of maternity and infancy clinics or centers, and the educational programs of various local and state health departments, have meant a saving of infant life, a better start in building sound bodies, a deeper appreciation of the value of breast feeding—in all of which, babies born out of wedlock have shared to advantage. Much of the work initiated in the administration of the Federal maternity and infancy welfare program has become a permanent part of health programs of the states.

MORE FAVORABLE ATTITUDE

Perhaps the chief gain in social practice lies in further development of the gradually softening attitude toward this group of underprivileged children. In spite of all that remains to be achieved, there are encouraging instances of this changing point of view being crystallized into a pronouncement in favor of the child. A striking instance of this is noted in the State of New York, in a statutory enactment by which the general construction law was amended in 1925. The term "child born out of wedlock" is to be substituted for "bastard" and "illegitimate child" in any law, ordinance or resolution or in any public or judicial proceeding, document or record.

New Jersey made a similar change in 1929. In a law providing for support and education by the parents, the term "children born out of wedlock" is used. This change in terminology is also apparent in statutory enactments and official pronouncements in other jurisdictions. In 1925, Oregon declared by statute that the offspring of common law marriages shall be deemed legitimate. Minnesota provided for private hearings in cases of adjudication of paternity in the same year. New Hampshire in 1925 and Rhode Island in 1926 made statutory provision for the legitimate status of children born of void or voidable marriages.

The social significance of birth out of wedlock is far-reaching. By the very fact of his illegal birth, the child is faced with an abnormal situation in being deprived, in so many cases, of his fundamental right to normal home life with his own people. Here lies the root of his tragedy. When one considers what would be the plight of an individual in the modern community with no apparent family ties, it is clear that a child who is kept from knowledge of his parentage, with no sisters, brothers, cousins, aunts, or uncles is placed under a strain well-nigh too severe for human endurance. One realizes, too, how futile are the attempts so often made to conceal permanently from the child the facts in regard to his birth.

In some of the agencies having highly standardized case work, a real contribution is being made in the present method of approach to the problems of children born out of wedlock. Here, some of the most vital aspects of the problem of illegitimacy are recognized. Again, the interweaving of social and health factors is noted—this time, factors in mental health. Just as with the whole field of mental hygiene, wherein so much of benefit to the individual in normal health has been

learned from observation of those suffering from maladjustments, so the study of behavior difficulties in children has provided new approaches in the social treatment of children born out of wedlock.

Sympathetic workers in the children's field, alive to the possibilities of best service to children, have had an awareness of the social handicaps incident to separation of the child from his own people because of his illegitimate birth. It remained, however, for child study and the probing back into causes, sometimes remote, of the child's disturbed condition to reveal how much was involved in the old, old attempts to cover up by leaving the baby in an institution or placing him out for adoption.

In the intensive study of the illegitimacy problem in Boston and throughout Massachusetts, published by the United States Children's Bureau in 1921, Publication No. 75, this aspect of the problem is noted in the information on certain groups of delinquent children. Again, with detailed application in a group of cases where relatives reared the children, it is shown in a publication of the bureau in 1928, Publication No. 190.

Recognition of the handicaps to the child has led to greater effort on the part of workers to make provision for these children with their own people. In his own family or one closely approximating it by reason of kinship or some other intimate relationship, the child is best assured the security so necessary to his well-being. A few foster homes are found that tend to answer the purpose, but these are rare indeed.

THE DEMAND FOR INFORMATION

The burden that private and public agencies carry for the maintenance of children born out of wedlock is but one

aspect of their problem in regard to these children. Supplying for the child satisfying information in answer to his questions; answering his perfectly logical demands for information about himself—these have presented the more difficult portion of the agency responsibility.

A case is recalled of a girl who during early adolescence persisted in the desire for knowledge of her parentage. This child had been in the care of a public child caring agency from early infancy, when she was committed as a foundling. No trace of any of her people had been found. The case worker finally, after long and futile effort to unearth some clue which might develop a trail of investigation, told the girl that her mother at least must have cared about her, because of the preparations made prior to her abandonment. The baby was well clothed; she was left on the doorstep of a family of wealth, with a note asking that she be well cared for and kindly treated. This had some effect in quieting the child's disturbed state.

A fifteen-year-old girl, who presented behavior problems, had care in an institution for problem girls, without being helped, and request was made for her placement as a ward of a state department accepting commitment of delinquents. In the social inquiry, these facts came to light: The girl had been born out of wedlock and had been reared by her mother, who had died a few years before. She then lived with friends of her mother until this arrangement was interrupted by an aunt, who had no understanding of the child, and who, for reasons of her own, arranged the institutional placement.

What the child really needed was sympathetic understanding and explanation in regard to her status,

which perplexed her. Her difficulties were increased by failure of the aunt to share her home with the child. The aunt feared that "she would follow in her mother's footsteps," and deemed an institutional placement the ounce of prevention. The girl's father, though married, had always been interested in her and she knew him as her father. This the aunt felt to be unseemly and dangerous. Contact with him was easy to establish, and he offered his daughter a home. His wife, an unusually understanding person, quite readily accepted the girl. In a short while the girl seemed to adjust herself to this environment, and now, after a considerable period of time, she appears happy and settled.

A boy of eight, quite above average mentality, developed behavior difficulties. He became dishonest, disobedient, truant from school, and spent three years in one grade. He had severe spells of crying and despondency, and caused distress and friction in his home. After two years of vain endeavor to cope with his problems, his mother was directed to a child guidance clinic.

Psychiatric study discovered that the boy's difficulties dated back a little over two years to a time when comments of his playmates and a casual remark of his grandmother set him to worrying about his birth. In the child's own words, he heard "queer things" about his mother, and once some one called him "a bastard." This boy had been born out of wedlock. His mother, a superior girl in many respects, had never given him any real explanation about his father, though she was married and the boy knew her husband to be his stepfather.

On advice of the psychiatrist, the child was told the truth about his parentage. His first reaction was one

of anger toward his father for not having taken care of him and his mother. Then this attitude changed to deepened affection for and devotion to his mother. Under guidance of the clinic over a considerable period of time, this child was helped to a satisfactory solution of his difficulties.

These cases show an acceptable approach in case treatment where the child is in difficulty. There are indications that better effort is being made, too, in the earlier approach through planning for the unmarried mother and her baby with an appreciation of the problems which they will probably have to face. While social agencies do not feel secure in their present handling of this situation, the indications are hopeful for further progress. Certainly the child's emotional needs are beginning to be recognized in child placing and adoption practices.

THE UNIFORM ACT

Recognition of public responsibility for protecting the rights of children born out of wedlock has its most significant expression in legislation. In summarizing developments of recent years, which show the changing sentiment in favor of the child, attention has been called to a liberalization of certain existing statutes through changes in terminology and extension in scope, and to the application of these principles in new legislation.

The outstanding accomplishment of the last ten years, however, is the uniform illegitimacy act drafted by the National Conference of Commissioners on Uniform State Laws. In fact, this may be regarded as one of the most significant developments in the whole field of child welfare in the United States. It brings to a constructive result the work, over a long period, of various groups in connection with problems involving the health and the

social and legal protection of children born out of wedlock. It provides a model for legislation in the different states based on uniform provisions, with a higher standard than the standards set by the laws of many states, insuring coöperation between the states adopting its provisions, in cases where the father is not in the same state as the mother and the child. Action of the conference in submitting a model act to the various state legislatures and recommending its adoption, brings to the support of the proposed measure a weight of authority in the indorsement of so representative and conservative a body.

The act was drawn by a committee of the conference appointed in 1920 at the request of the United States Children's Bureau, and it was approved and recommended in 1922 to the states and the Territories of Alaska and Hawaii. Changes were made in the first draft submitted by the committee to the conference in 1921. The draft approved in 1922, therefore, represents the conclusions of the conference after deliberation and discussion, embodying the viewpoints of all sections of the country.

The act is purely a support measure and is in no sense a radical reform. It covers the features usual to acts for support of children born out of wedlock, and, additionally, it eliminates unnecessary reference to illegitimate birth in records and official papers. In the opening statement this declaration is made: "The parents of a child born out of wedlock and not legitimated owe the child necessary maintenance, education and support." Mr. Ernest Freund, writing in the *Survey* for October 15, 1922, refers to this sentence as the proposition on which the act is based. Here is a long step forward from the *filius nullius* of the English common law which was the

original basis of such legislation in our country.

In the uniform act, the obligation of the parents for support of the child under the laws for support of poor relatives applies to children born out of wedlock. The father is liable for expenses of the mother's pregnancy and confinement. Where paternity has been acknowledged or adjudicated, the obligation for support is enforceable against the father's estate. Action may be taken against the father by the mother, by her legal representative, by a person furnishing support for the child, or by the public agency charged with the child's maintenance should he become dependent.

The order for support continues until the child is sixteen years of age. Payments may be made to the mother or to a trustee. The court has continuing jurisdiction and may increase or decrease the order. It also has continuing jurisdiction to determine custody consistently with the interests of the child. In default of security, when required, the father may be placed under supervision of a probation officer of the court. Agreement or compromise concerning the child's support shall be binding only when approved by the court having jurisdiction to compel support of the child.

Seven states have adopted the uniform act with some modifications: New Mexico, North Dakota, South Dakota, Nevada, Iowa, Wyoming, and Wisconsin. Undoubtedly the act has influenced legislation in other states. Idaho, in 1925, for the first time provided for the establishment of paternity and support by the father of a child born out of wedlock. In the same year, in New York, the domestic relations law was amended by the addition of a new article entitled "Support and Education of Children Born Out of Wedlock and Proceedings to Establish

Paternity." This amendment carries out provisions of the uniform act.

The Wisconsin Children's Code, enacted in 1929, contains far-reaching provisions in regard to protection of the rights of children born out of wedlock. The Minnesota precedent declaring it to be the state's duty to protect these children is reaffirmed and the Minnesota plan for reporting all cases of children born out of wedlock to the state agency is provided for. Maternity homes and hospitals are now required to report to the State Board of Control all cases of children born out of wedlock.

NEEDS TO BE MET

Children of unmarried mothers are usually thought of when children born out of wedlock are mentioned. There are other types of situations involving the status of children, which have not received the consideration they merit. Children of void and voidable marriages present a complicated problem in regard to which there is much difference of opinion. In the first draft of the uniform illegitimacy act there were provisions regarding the status rights of such children. These were removed because they encountered strong opposition on the ground that their inclusion attacked fundamental tenets of the social order. For similar reasons, provisions regarding inheritance and legitimation were omitted.

That these situations have the interest of thinking persons is shown by an occasional development such as the changes in laws and the new statutes noted earlier in this discussion. In a recent case before the Supreme Court of the District of Columbia, brought by a young woman who had, unknowingly, contracted a bigamous marriage, the court in giving the decision passed an order declaring the child to be of legitimate status.

In contrast to this situation, a man under court order for maintenance of his child born out of wedlock, married this child's mother without being divorced from his wife. The proceedings to support under the illegitimacy act were then discontinued. After several years it developed that the marriage was a bigamous one and the mother left the man, taking this child and two younger ones born of the union. The father refuses to contribute to the maintenance of the children, and the court says he has no legal responsibility. The mother and her relatives, with some assistance from a public agency, have been meeting the entire expense.

A public child caring department has in care at this time two children of a couple who lived together after being divorced. The mother died and the father refused to support the children born of the union. The court, in making the commitment to the public agency, stated that under the law the children had an illegitimate status and the father could not be compelled to support them.

Such cases, where the operation of the natural law in fixing obligations and responsibility is hampered by the legal concept, are common in all jurisdictions. They point to the need for consideration of these situations as the next step in the program for the care of children born out of wedlock, both in the interest of the children themselves and of the public.

The best laws will fail of their purpose if machinery be not available for their proper administration. The standards referred to early in this discussion call attention to this point and they include the provision that courts handling illegitimacy cases should be equipped with a staff of social case workers. States which, like Minnesota and Wisconsin, have a state de-

partment with local or county units for carrying this work have set a goal for the rest of the country.

The interest of the child welfare committee of the League of Nations, in assembling data from various countries on the status and the rights of children born out of wedlock, is of special significance. This means an appreciation of the handicaps to which these children have been subjected, and a desire to improve their lot. It is hoped that the groups interested in this phase of child welfare will bend united effort to place on the statute

books of their various states the uniform illegitimacy act or a measure approximating its provisions and embodying its principles.

When this step is taken, provision should be made, too, for the administrative machinery essential to a satisfactory application of the law. This will include such measures of health protection and social assistance as are incorporated in the standards for protection of children born out of wedlock, formulated through the inspiration and the leadership of the United States Children's Bureau.

Institutional Care for Delinquent Children: A New Appraisal

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PUBLIC interest in the segregation of youthful offenders from adult delinquents preceded the juvenile court movement by many years. Long before the development of organized social work, there were definite efforts in many communities to establish institutions for the care of boys and girls who were in need of discipline and training of a specialized sort. The treatment aspects of such placements were genuinely appreciated in many of these early and costly efforts.

In general, the plan of organization followed that of the usual dependent-child-caring institutions which were at that time widely accepted as offering exceptional and valuable opportunities to handicapped children. While the protection of the community, the punishment of the offending child, and certain undesirable ideas of retribution and retaliation were often apparent, it is generally concluded that fundamentally the welfare of the individual child was the chief consideration. Around this conception, theoretically at least, the functions and the programs of these new organizations were largely centered.

CLASSIFICATION

It was in part a realization of the responsibility of the community for the ultimate well-being of the child that gradually indicated the need of other forms of treatment and suggested an elimination from the correctional schools of certain cases for whom other and more effective programs of care,

training, and rehabilitation could be developed and fostered. The growth of new treatment facilities has followed this careful differentiation.

At an early date, classification became an important consideration. Although the limitation of social resources in many communities has, unfortunately, been an influencing factor, there has been an increasing effort to reserve for the so-called correctional schools responsibility for the training and the redirection of specialized groups of properly selected children. Increasing attention to the demands of the individual child has taken from these institutions many children whose mental, physical, and social characteristics indicated the need of a type of care other than that provided by congregate placement and by more or less formalized group approach to their deep-set problems.

The juvenile court, with its determination, at least ideally, to supply the fundamental needs of security and growth to the individual child, has encouraged the establishment of well-developed systems of probation and of interagency placement. There is offered specialized and well-directed service to the child within his own home or in some foster home, where correction of irregularities and development of new and acceptable interests and activities may be brought about in a manner more effective and more economical than long-time institutional care could possibly accomplish.

There has gradually come a realiza-

tion in many localities that it is not expediency, not economy, not safety, not legal interpretation alone which shall designate the program to be chosen for the individual child. It shall rather be the child's own needs, determined on a social case-work basis and met as scientifically and in as thorough-going fashion as the medical group meets the irregularities which are disclosed in a physically ill child by clinical and laboratory diagnosis.

MISUSES OF CORRECTIONAL SCHOOLS

The institutional program is already a costly one; and as such, it is to be reserved for those individuals who, upon study and examination, qualify for such specialized treatment. Certain present-day misuses, which are general, merit careful consideration. The large number of boys and girls in correctional schools whose dependency appears to be the chief factor in their placement, and whose undeveloped community resources allow no facilities for case handling other than state care within an institution for delinquent children, adds greatly to the total number of alleged delinquents now in custody.

To say that a dependent child is a delinquent child, in order to allow ease in placement, is a dangerous and near-sighted policy. It meets neither the immediate nor the ultimate needs of the particular child. It reflects seriously on the social standards of the child's community. To modify statutes relating to commitment to legitimately include this dependent group, is indeed reactionary and represents an unacceptable and nearsighted social practice.

Careful study of the population of most schools, moreover, shows a large percentage of mentally defective individuals, whose adjustment to program is difficult and who profit only

slightly by a training schedule planned for average individuals. They usually have difficulty in adjusting within the institution. They handicap the progress of brighter children. They often necessitate a curtailment of group freedom and of creative expression. They are finally discharged into the community, unprepared and usually unable to meet the social demands upon them.

Crowded conditions of state institutions for the feeble-minded, greater economy to the committing county by correctional school placement, and the inadequacy of scientific services to determine selection of proper institution, enter largely into many misplacements and suggest causes for some of the present-day correctional school difficulties. It is generally recognized that the proper allocation of this particular group would add much to the training possibilities of most correctional schools. In fairness to these handicapped children and to the other part of the population of each school, and in justice to any evaluation of the institution's effectiveness as a corrective agency, many classification readjustments must necessarily be carefully made.

No one is able dogmatically to determine by size, age, offense, or even by psychometric measurement, the proper training program for the individual child. The mere exhaustion of the patience of a child's family or of a probation officer or of a community by that child's bad conduct is no suitable criterion for his indefinite institutional placement. The careful determination of what is desirable and necessary depends primarily upon an intensive investigation of his individual make-up.

CAREFUL STUDY OF INDIVIDUAL

Around these findings, as presented to the court, the program for redirec-

tion and rehabilitation must necessarily be constructed. The need of adequate study before commitment, for classification purposes, deserves great emphasis. When the population of each training school is made up of a group which is thus homogeneous and carefully sorted, some of the present-day difficulties and shortcomings may be satisfactorily removed or at least greatly lessened.

Even then, classification within the institution remains a problem of great importance. Old systems of cottage, grade, and detail placement have in many schools given way to an increasingly scientific procedure. The characteristics of the boy—rather than his physical development in feet and inches, or the need of increased help for institutional maintenance and production, or availability of cottage vacancy—are receiving an important recognition. Proper placement within the school is becoming a matter of conscious effort by an authoritative classification committee, which must depend for its decisions on the observations of trained custodians, on the results of careful physical and mental examinations, and on the findings of a well-directed social investigation of pre-commitment factors.

This method demands that all staff appointments meet acceptable standards. It indicates the danger of political dominance. The significance of its curtailment is self-apparent. Without adequate provision for mental and physical health directors, teaching staff, recreational leaders, and efficient supervisors, there will always be an impairment of service; certain fundamental needs of the committed child will be overlooked and neglected.

Limitations in many present-day set-ups are most disastrous. The real significance of a mental hygiene approach cannot be judged by the occa-

sional visit of a mental tester, or even by the contributions of a resident psychologist or psychiatrist whose services are limited to classification by routine examination, and whose authority reaches no farther than the files of his own office. Training by a teaching staff means little when schoolroom attendance is irregular because production and maintenance demand increased labor service about the institution. Supervisors with sixty to ninety children under their immediate direction can offer little individual training, and can furnish only superficial observations.

The degree of high expectancy which characterizes our thinking regarding a great number of our institutional placements, and the ridiculously small provision we make to meet the needs of these young offenders, offer an interesting and suggestive comparison.

THE TRAINING PROGRAM

Increasing attention is being directed toward the services offered the child by the institutional staff. While it is recognized that the needs of the community itself for growth and protection merit serious consideration, it is now apparent that this security and development can be assured only by meeting the needs of individual members. Therefore, effort and cost for the training and the stabilization of the young delinquent is a real investment. The degree of his ultimate community adjustment and contribution will depend in large part on the thoroughness and the wisdom of the program planned for his stay in the institution.

Many citizens are rightfully asking what is, or what should constitute, a suitable training program for this important group of children. A careful survey of the reports of such institutions fails to show, in most instances, any really progressive approach to the

problem. Generally there is an effort to offer the candidate a degree of formalized academic instruction, a degree of productive service for the maintenance of the institution, sometimes called trade practice, and certain routinized activities such as military training, chapel attendance, and gymnasium drill, each of which is important to the child, but only when the emphasis is placed upon its contribution to the child's development rather than upon the easy control and the smooth and economical management of the institution and its population.

The successful effort in some schools to coördinate and vitalize all the training aspects of their program is encouraging. It is reasonable to expect that careful evaluation of ultimate outcomes from such institutions will show a degree of success sufficiently great to commend further development. At the same time, results will suggest discontinuance and considerable modification of much in the usual type of institutional training.

Certain essential principles can properly be suggested here which will indicate useful standards in the estimation of an institution's usefulness.

The training program shall be sufficiently flexible to meet the needs of the individual child, as determined by careful scientific investigation and staff conference.

Maintenance and production demands within the institution are secondary to the development of the child. These should never become the chief consideration in planning the child's schedule of activities.

Training is a complicated process, involving instruction and practice. Its thoroughness, usefulness, and interest to the individual child will depend largely on the ability and the vision of the school's instructors. To expect unskilled and unprofessional persons to

carry this important responsibility is dangerous and illogical. Attention is therefore directed to the importance of careful selection of all staff members, well qualified, adequately paid, and imbued with the spirit of the pioneer social worker or educator, farsighted, zealous, adventurous, and untiring. The whole staff, from the humblest workman to the superintendent, should share in this important point of view.

INDIVIDUALIZED INSTRUCTION

The correlation of practice and theory is possible and desirable. This is no haphazard procedure, to be satisfied by half-day school attendance and half-day force or household detail. It points out the need of a completely modified classroom curriculum, expressing itself in facilities for individualized instruction and progress, and in the development of constructive projects of definite vocational value. It is to be recalled that many of these institutional children have already shown serious schoolroom maladjustments, closely related in many cases to specific behavior disorders. Great emphasis, therefore, upon formal education and academic progress is futile and upsetting.

Training must go beyond attention to instruction in tool subjects and practices. New ethical and spiritual values must be developed in the individual. Therefore, it is essential that his environment be truly cultural and that his relationships with those in whose authority he is constantly placed be cordial, inspirational, and conducive to imitation and favorable stimulation.

In many places, interest in the growth needs of the institutional boy and girl shows encouraging development. However, there remains much of antiquated, purposeless control in which deprivation of privilege and narrow routine actually handicap the child

under treatment. Such disqualifying characteristics could be discussed with some profit. To present one offers a good starting point in any comparison between old and new methods.

Conformity is still the end of much effort in many institutions. Indication of personal variation soon calls for repressive discipline and increased staff vigilance; for, not only does the dissenter tend to develop an activating individuality of his own, but also, his very independence threatens the stability and the contentment of his immediate associates. A program planned to meet the needs of many individuals is more difficult to organize and direct than that planned for a group of conformists. Consequently, because society is willing to accept this easy though unproductive approach, in all experimentation, to child care, in the name of financial saving or because of a fatalistic temerity, the company front of most training schools presents a discouraging appearance.

It is probably true that this unfortunate complacency has developed largely because of forced economies. Too often, uninformed budget makers offer little approval for so-called expensive innovations. They look upon a carefully trained staff with professional standards as a useless extravagance. They still stress, with peculiar insistence, a strong arm, a strong political affiliation, and a low wage scale for all staff applicants. Employment of experienced social case workers, good mental hygienists, expert trade instructors, trained recreational leaders, and understanding and cultured house officers, is by no means generally accepted. It is important to note that the schools which today appear to be leaders in this field of correctional education are placing increasing emphasis on the qualifications of all staff members.

SATISFACTION OF SECURITY NEEDS

It is possible, therefore, to meet in a fairly satisfactory manner the growth needs of the individual delinquent. Proper attention to staff, equipment, and program schedules generally gives assurance of an adequate service. To satisfy the security needs of a child is, however, a much more difficult matter. Psychiatrists have clearly indicated the need of a suitable approach to the affective demands of child life. They have shown the futility of any corrective program which fails to develop within the child an adequate sense of physical and spiritual well-being, of definitely belonging to an accepted group, and of having a creditable and productive place in the activities of life about him. The institution, no matter how carefully directed and organized, has great difficulty in meeting these deep-set needs.

Advantages in treatment offered by an extramural service which can ultimately develop this sense of security by improved home care or by some carefully selected foster placement are apparent in many cases. The greater use of these methods in case redirection, and the excellence of results in certain well-controlled experiments in foster home care, suggest the possibility of a wider use of this type of training for poorly adjusted children whose conduct is already, or may become, delinquent.

The complex problems of offering such intangible service within the institution must be recognized. The difficulties of the situation should stimulate great effort to meet these deficiencies as constructively as possible. It is certain that smaller units, improved staff, and enriched program will offer increased opportunity for the satisfying of these very important security needs, as well as the more

easily determined growth needs of the individual child. They must be supplied, at least in part, if the institution is to accomplish that purpose for which it is really intended—the fitting of the child for a life of happiness and usefulness in his community.

INSTITUTIONAL SERVICES

Much emphasis could properly be placed, in passing, on the several services within the institution, other than training, which add much to the possibility of the child's improvement and which become essential parts of a well-rounded program. Mention has already been made of an adequate guidance and classification service. Permeation of any institution with a mental hygiene point of view that is vital and effective suggests creditable progress. Thoughtful investigation indicates that the psychiatrist and his associates can be, and should become, generous contributors. Well-planned medical and dental care may remove discrepancies in the individual child sufficiently great to upset a satisfactory adjustment if left uncorrected.

A well-developed recreational program, organized on the exponent basis, encourages competition by all and allows individual growth and development. Creative activities are not fruitless extravagances but give each child those opportunities for expressive and emotional outlook which are essential. It is axiomatic that the necessity of rigorous and repressive discipline will subside as attention is directed to content and completeness of the services offered to the child during his stay within the institution. A program rich in opportunity and interest allows loss of privilege which may afford disciplinary measures infinitely more useful and effective than the old systems of corporal punishment, solitary confinement, and silence.

It is encouraging to note that failure to adjust within the institution is now felt to be chiefly symptomatic. The combined service of all staff members is directed to a search for causative factors and their permanent correction. The child's whole stay is a treatment process, carefully and efficiently planned. Each step is directed towards the individual's ultimate adjustment—not the settling of a conduct situation of immediate and upsetting concern.

The process should not end with release from the institution. A recent study of the parole procedure of state schools indicated the general inadequacy of existing facilities. Only occasionally was it reported that provisions for after-care were even fairly satisfactory. Release that is premature and inappropriate, hurried investigation before replacement, heavy case loads which allow only infrequent visits with parolees, little effort to do case work with the child's family during the period of detention, confusion as to the proper place for parole jurisdiction, and similar important questions are a part of the present-day uncertainty which needs intelligent attention.

This after-care is a definite part of the treatment process begun in the institution. It demands support and carefully correlated direction which will insure to the child continued interest and helpful guidance, and to the state, proper protection of the investment in training which is represented in each commitment.

OBLIGATION OF THE CORRECTIONAL SCHOOL

The individualization of all treatment is an essential of modern penology. Having determined the advisability of a certain child's institutional placement, the quality and the quantity

of services offered him there are to be discriminatingly investigated. The recognition of his fundamental needs for growth and for security is important in planning his program of reeducation and training. The permanence of benefit from this period of institutional direction will be closely related to the degree in which these needs are actually met by the specialized services of the staff within the institution.

Such an approach demands a high standard of institutional organization and maintenance, insistence upon adequate classification principles before and after admission, and a social case-work responsibility for the child and his family which continues during his stay and after his release from the institution. Each correctional school must, therefore, become a treatment

agency for a group of special children whose individual needs demand this costly and complicated therapy after the inadequacy of other treatment processes has been determined by careful and scientific investigation. The social case-work approach so essential in work with needy families and dependent children is equally necessary with children presenting personality or behavior problems. Executives of institutions or schools for delinquent children must have a trained social case-work point of view if these organizations are to succeed in reducing the number of delinquents, either juvenile or adult. The acceptance of this point of view places a tremendous obligation on each institution which accepts the direction of these needy children.

Juvenile Detention Homes

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AND

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OUR ideas and our concern about detention homes for juveniles are based on long experience. We have worked for years with young people in an office within a detention home, and also in a large city which gets along very well without such an institution. Besides this, we have had opportunity to observe many other detention homes, large and small, and often have had direct contact with those who are or who have been inmates. Consequently, we can very well sum up the administrative advantages of detention and, on the other hand, through direct knowledge we are well acquainted with the great disadvantages that accrue to individuals through detention.

PURPOSE OF DETENTION

In considering what can be said for or against the building and the utilization of detention homes, we stand face to face with the question of what society is attempting to do when in any way it lays its hands through the law upon the human individual. In this specific matter we must ask, To what purpose is detention directed? And we must ask for sincerity and honesty in the answer. The purpose of detention is certainly not the protection of society, primarily and immediately, as it is with older offenders who are jailed and then sentenced for a period of segregation. At least, only in very rare cases is this the immediate purpose and aim of detention.

Is detention, then, a process carried out in order to render court procedure easier, so that the boys and girls shall be on hand when their cases are called in the juvenile court? This seems to be one of the main reasons for it, but we find that the court hearing, which obviously with better methods might come vastly sooner, is sometimes so delayed that the average period of waiting under detention ranges in several large jurisdictions from ten to over thirty days.

Is the detention of juveniles often a matter of police convenience—the youngster being locked up until the police or probation officers can decide or care to decide what to do about the case? This is common practice, we know. In some places, a large proportion of the individuals detained are allowed to go home without any court hearing.

Is detention necessary in order to prevent escape of young delinquents? In rare cases this is necessary, for example, when the delinquent is a runaway from some other part of the country; but the problem of escape very seldom enters into the cases of young offenders who live at home.

Is detention regarded as punishment of a milder sort, or as a measure of warning? This can be answered in the affirmative, for some police and probation officers hold strongly to the idea that a taste of segregation will turn a trick that no amount of talking to a boy or girl will effect. From our ex-

perience we should say that occasionally this measure does work out as intended, but that in the vast number of cases there are no such results. Statistics of recidivism as it applies to juvenile detention homes easily disprove that detention can be regarded as an effective deterrent measure.

The accessory advantages of detention, particularly the opportunity which it affords for study of the young individual, are only in some cases and in some places the real reasons for detention. To be sure, in a few detention homes, actual medical, surgical, or dental work is carried on, but this is not at all general. As a matter of fact, the most important studies, namely psychological, psychiatric, and social, can be undertaken as well, and in many instances much more auspiciously, when a young person is seen in an office that is not in a detention home. We believe we have much evidence to support this conclusion.

YOUNG OFFENDERS' INTERESTS PARAMOUNT

It is perfectly true, of course, that the local geographical situation and the size of the jurisdiction of any given juvenile court bears greatly upon the local needs and the advantages of detention, including the study or the medical treatment of a case. It would be almost impossible, for example, for the juvenile court in Cook County, Illinois, to function if there were not in Chicago a large detention home to which youngsters from that immense area could be sent and held. But this is far from saying or proving that the best interests of these young persons, and consequently some vastly important interests of the community, are not jeopardized by such detention.

The origin of the juvenile detention home, together with that of the juvenile court itself, was entirely humanitarian

—it was conceived to be utterly wrong for a child to be held in a police station or a jail to witness the miserable scenes that so frequently are enacted there. It goes without saying that this desire for better treatment of our youth was fine and right, just as was the conception of the unrighteousness of handling juveniles in court under the procedure of the criminal law. But our knowledge of what actually occurs very frequently when juvenile offenders are herded together—and even when dependents are placed in groups under detention—throws new light upon the most practical matters that pertain to the detention of juveniles.

The whole subject may best be considered first from the standpoint of the theory of handling juvenile offenders under the juvenile court law. This standpoint is certainly not that of the criminal law, which considers as of foremost importance the protection of society, whether through segregation or some other form of punishment that may prove to be reformatory or deterrent—and more recently through adult probation. The basic idea of the juvenile court is that it shall function as a wise parent in relation to the young individual. The juvenile offender is to be treated in terms of reeducation, and through meeting his needs in sufficient measure. Considerations pertaining to the protection of society rule in the cases of adult offenders, and there is very little thought about what is really done personally to the criminal by imprisonment and other forms of punishment; but in the case of the juvenile court, the consideration, above everything else, must be the effect upon the young individual of any form of dealing with him that is undertaken.

CONTAMINATION

We may pertinently here review some of our own observations about deten-

tion, not alone in terms of the above general philosophy, but rather with our attention centered on specific and readily ascertainable facts.

The first observation that any one can readily make with regard to juvenile detention homes is that inevitably there is an unfortunate mixing of inmates. This occurs not only in the larger detention homes, but is as manifest when even four or five youngsters are held together. The significance of this does not lie in the age mixture of older and younger delinquent individuals; age divisions, even when enforced, by no means separate those who are farther advanced in the development of antisocial tendencies from those who are less experienced. In some cases, a young boy or girl may have more deeply set tendencies towards bad conduct than the average run of those who are years older.

It is well recognized that the possibility of contamination in matters of vice and criminalism is very real, but all too little attention is paid to this possibility in committing to, or in managing, juvenile detention homes. Much has been made of the evil influence of bad adults upon children, and we hear of this constantly whenever there is consideration of children being held even for a few hours in a jail or a police station; but the fact seems to be that what most often gets under the skin during child life is bad teaching and bad suggestion received from other individuals of about the same age or at most a little older. In studying the causes of antisocial conduct, we have the very definite finding that what is learned from bad companionship is one of the greatest factors in the production of delinquent trends. These observations hold true whether for children and young people in their ordinary social relationships or as they may have been held under detention.

We have known an extraordinary number of cases where the individuals have given us pretty certain evidence that the worst they have ever learned, or the greatest influences that have ever set them towards delinquency, have come through being thrown among other offenders. This is as true of girls as it is of boys.

It is a very curious fact that in a given group, at least in any group of young people who are segregated in an atmosphere that reeks with delinquency, the worst things that the worst individual knows are likely to permeate the ideational lives of members of that group more quickly and more virulently than anything else will do. On a number of occasions we have seen three or four boys under very good physical surroundings in a detention home, though not under close supervision, gathered together, listening to what the worst boy of the group had to offer. We could give much illustrative material bearing on this matter of moral contamination in detention homes. It forms a point for the most earnest consideration, because it is through such development of delinquent ideation that so many delinquent careers are formed.

We have also observed much hardening directly ensuing from detention. A youngster definitely says, "Oh, I don't mind this. It isn't half so bad as I thought." Or, "I am not so bad; I find here a lot of others that are much worse." Or, and we have heard this a number of times, "They sent me here to teach me to be good, did they? Well, they couldn't have sent me to a place where I could have learned more that was bad." Even if detention has not been met in quite this spirit, still there may have been a hardening process through the boy or girl becoming indignant at being held, or through learning how to lie, or how to appeal

to another court in states where this is possible. All these things develop disrespect for the law through direct contact with what is done under the law, and lead the individual to become scornful of the whole procedure.

Again, harmful companionships are not infrequently made that develop into delinquent friendships on the outside.

IMPROVEMENTS SUGGESTED

It is through review of what we have learned from cases studied that we are forced to the conclusion that the detention of juveniles is very frequently inimical to the interests of society and to the fundamental intentions of a good juvenile court procedure. Very few youngsters are held long enough under good treatment to bring about reconstruction of behavior trends. In general, we believe, nothing of the sort is expected. Very frequently a detention home is merely a dumping place for the police; or children are held for long periods because court arrangements do not admit an early hearing, or because probation officers who do investigatory field work are overloaded with work. In any case, there is a large chance of the young individual being sacrificed.

There can be no doubt that detention homes must exist in some cases and for a certain number of cases; but it is most surprising how a community spirit can be built up, as in Boston, so that appointments are kept with the court, the probation officer, and for study purposes, with young offenders nearly always allowed to go to their own homes. A detention home started

with even the best spirit back of it must soon face the fact that very considerable moral dangers are involved for the young individual detained therein.

It seems clear to us that for the real safeguarding of youngsters during detention there must be close, intelligent supervision, with a twenty-four-hour program; no periods of idleness must be allowed when boys and girls can gather together and contaminate and harden each other. Discipline by inmates is dangerous; teachers must be plentifully supplied in an endeavor to influence the children for good and to give them a chance to pour out their troubles. Sufficient facilities for physical activity are necessary.

It also seems clear to us that the best possible way of managing such an institution is under the direction, whenever this is possible, of a child caring agency which has achieved fine standards and is alert to what is bad and good for the life of children and adolescents. Such management would rule out the possibility of pernicious police and political influence.

Only those should be detained who cannot be held at home and induced to keep appointments as directed by the court or probation officer. If a court area is unwieldy because the distances to be traversed are too great, then the court itself should be split up into divisions and smaller detention homes established if necessary; but with courts more contiguous to home districts, less detention will always be necessary.

Our sole plea in all this matter is for the intelligent protection of childhood as part of efficient community service.

New Uses for Wealth as Endowment

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THIS article proposes to discuss some new points of view, which since the war have come to the front, regarding the possible uses for endowments in the child welfare field. Resisting the impulses either to "view with alarm" or to "point with pride," we may approach the subject by a brief statement of certain underlying conceptions in the minds of the public concerning the free use of endowments and the new foundations which in the last few years have been built up. It is reasonable to resort to the law as a source of information, because there lie the crystallized judgments of the community, and there the most interesting phases of the struggle to build up a new point of view are now observable. It should not be assumed that the advances recorded are solely children of the postwar period. Their most obvious evidences, however, have appeared within the last ten years and so are logically included.

VARYING ATTITUDES TOWARD ENDOWMENTS

Any effort to summarize the point of view of the community toward a particular problem is probably inaccurate *per se*. It is possible, however, to indicate certain ideas that the public had in mind about 1920, and which are still largely current, with regard to the use of funds for charitable endowment.

Such funds arise as a result of a deed or will by which the owner of property sets some of it aside in trust for a certain purpose and subject to certain conditions. In the past, there has

probably been more money left thus by will than by deed. The purposes and the conditions of such grants are those which in the mind of the donor appear suitable at the time he makes his gift. The law permits such gifts to be in perpetuity for the benefit of the public or a certain class of the public, provided the benefits be of such a nature that they may be included under the legal definition of a charity.

Around such gifts, law and public opinion have cast a radiance of approval often justified, but sometimes not. This approval is based on the thought that here is a benefit to the public which relieves the taxing authorities of a portion of their burden and improves the conditions of unfortunate individuals.

It is generally accepted as true that there should be particular regard paid to the last wishes of a testator as an act of respect for the deceased, and perhaps because the gift is regarded as a sort of atonement on the part of the individual—much in the same sense as in earlier generations the gift was thought to bring repose to the soul of the giver. Underlying both of these ideas is the thought that a man's property is his own to do with as he wishes, and that courts are here, in part at least, to see that such gifts are carried out according to the will of the testator. Assuming that the foregoing statement of trends is a fairly comprehensive one, we may turn to the various questions which have been presented forcibly in the past ten years.

During the last decade, many people

have arisen who seriously question a number of matters regarding all these points. It is asked whether or not such gifts are in fact beneficial to the public, and do in fact relieve the taxing authorities. Ill-considered wills are constantly being brought to light where to the man in the street it seems that a desire to disinherit one's relatives or to raise a monument to one's self, or some similar motive is stirring the grantor or testator, rather than an altruistic or pious desire to improve the community. Again, people are asking how long the law should permit the dead hand to control the use of property set apart for various purposes. Arguments are found that property given to the public should be subject to the control of the public to a large degree—that a man should not be permitted to set up and continue a system of distribution merely because he has expressed a wish; that if property is left in perpetuity, its administration should be controlled in the public interest, so that while the main purpose of the testator may be continued, the subordinate administrative detail of methods may be modified as new discoveries and methods become available.

PHILANTHROPY OFTEN MISDIRECTED

Let us hear what people have had to say on the subject. In 1919, Mrs. Cannon, writing on the subject of "Philanthropic Doubts," said in part:

A new orientation has, however, taken place in the public mind toward the philanthropist as the sensitive register of human suffering, and the chief guide to the alleviation of human misery. We are beginning to recognize that the same passion for humanity that inspires one man to lavish money on baby welfare, rescue homes for girls, and Christmas dinners for the poor, makes another man a radical. The impulses in both cases are the same, but the

second man is trying to think more fundamentally than the first. His methods may be clumsy and his suggested solution crude, but his aim is to remove the causes of human despair, not to risk the loss of precious time by attempting to modify their tragic consequences.

The philanthropists belong to a class on which the injustices of our present basis of society have not borne heavily. They serve unconsciously as a bulwark of the *status quo*, for whose defects they are ready and eager to apply palliatives. They are the great menders and patchers-up of society, not the surgeons who cut deep into the festering sore and scrape the bone. They express the tenderness and pity of man, not his reasoning intelligence. Their technique is developed to a high degree of perfection, but their philosophy lags far behind. They know better *how* to do a thing than *why*. . . .

These efforts may be good in themselves, but a community must make its investments with some sense of proportion. Enthusiasm for the individual may be a blunder. Suppose that through our failure to carry on some charity, individuals do suffer here and there. There are bound to be sufferers at best; but one is blind indeed who does not see that more misery may be saved in the end by the more broadly conceived plan. . . .

The new keeper of his brother is the man who looks to bettering his home town, not to giving his old coat to the beggar. . . .

Our task is not buttressing the weaknesses of our fellows with our strength, but organizing the energies of man to reconstruct his world.¹

UNWISDOM OF PERPETUITY ENDOWMENTS

In 1929, Julius Rosenwald, besides establishing a fund which was to be expended within a certain definite time, principal and interest, has this to say:

My differences are not with philanthropy, but with certain of its methods or tenets. In fact, my chief quarrel is with only one of

¹ "Philanthropic Doubts," *Atlantic Monthly*, pp. 289-293, Sept., 1921.

these tenets; the principle of perpetuity endowments. I am emphatically opposed to never-ending endowments. We know what the needs of today are and we may take a reasonable guess at what the needs of our children will be. From the standpoint of both social morality and business efficiency, I hold, therefore, that the fortunes which men have made in this day and age should be employed by them in support of such educational, benevolent, or humanitarian enterprises as will benefit their contemporaries—they and their children; no more.

I am opposed to the principle of storing up large sums of money for philanthropic uses centuries hence, for two reasons. First, it directly implies a certain lack of confidence with regard to the future, which I do not share. . . . Second, I am against any program that would inject the great fortunes of today into the affairs of the nation for a hundred or a thousand years hence.

Opportunities for philanthropic investment are subjected to careful scrutiny by individual donors or governing boards.²

With this manifest tendency to make philanthropic investments yield the maximum returns, the continued and increasing growth of endowments in perpetuity in the United States is a phenomenon too puzzling for solution. Millions—soon it will be billions—of dollars are today lying idle, or almost idle, because the purposes for which they have been set apart have largely disappeared. From being a boon, as their well-meaning founders intended, these endowments have become a burden to posterity. There is a host of instances of this frequent disparity between donors' intentions and the needs of a later generation. Only a few such cases can here be cited.

A Pennsylvania manufacturer recently established a trust fund of sixty million dollars, to be augmented by a part of the profits of his business, for a home and school for orphan boys. On the surface, this may appear as a

² "The Burden of Wealth," *Sat. Eve. Post*, 201: 12-13, Jan. 5, 1929.

much needed and worthy philanthropy. From the standpoint of cold facts, however, what the man did was, more or less, to consign his millions to a dead-letter office.

CARE FOR ORPHANS

In 1929, there were approximately one thousand needless deaths of mothers in childbirth. They represented very largely the lower wage groups, many living in sections of the state having few, if any, social welfare resources. A sound program of social and health work for these mothers would have prevented their deaths and would have resulted in less need to provide for orphans, because there would have been fewer orphans.

Modern social thought has moved past the point at which the orphan asylum is regarded as the only way of approaching the problem of orphanage. People realize first that orphanage may be prevented in large measure by a little forethought and the expenditure of a moderate sum of money. Experts in the child welfare field have been in agreement since the White House Conference of 1909 on the care of neglected and dependent children, that "the conservation of family home life is the highest and finest product of civilization."

It follows that there are now available methods of caring for orphans or half orphans which, in the opinion of those qualified to speak, are better for the children than orphan asylums. It is the aim of all good social work to reduce the number of children in need of institutional care to those who cannot be cared for elsewhere. His own home is to be preferred as a place to raise the child. If the home does not exist or if it cannot be made a suitable place for the child, then as second choice we find an increasing interest in good foster homes.

Not only is the situation a serious one from the standpoint of the welfare of the child, but we are brought face to face with another difficult problem, namely, how to finance our social welfare work without undue concentration of funds in a direction where there is no need for further funds. Two orphanages near Philadelphia have combined assets of approximately eight million dollars, and care for approximately 114 little girls. Is it economically sound to expend so much money on so small a group of persons, when the same amount of money used for the care of children in their own homes or in foster homes would provide adequately for a much larger group of children, and would thereby relieve the Commonwealth of Pennsylvania from the responsibility of taxing the citizens and turning over a large amount of money each year from its public treasury to carry on work which the private donor has overlooked?

Might it not be a sounder method of caring for this great problem of dependency to arrange for a more adequate correlation between public and private finances in this field, and to allocate funds where they are needed by the public interest, and not exclusively to some field which is dear to the heart of the donor but which is already oversupplied with funds for that particular purpose? May it not be that we are spending too much money on the care of individual needy persons, and that a realignment of our perspective on the whole subject is necessary for the best interest of the public? Additional points in this direction are found in the Appendix of this article.

ADAPTATION TO CHANGING CONDITIONS

It should not be thought that the present article is an attack upon in-

stitutions as such. There is a very definite place for the institution in the field of child welfare. The point that is stressed here is that once upon a time the institution was regarded as substantially the only piece of social machinery that could be set up in the child welfare field. Now we know of many other forms of social machinery that can be used in that field, that produce results that cannot be obtained through the medium of the institution. This paper is, therefore, a plea for a recognition by donors of the fact that as time goes on, newer, and in some ways better, means are available in any community for the accomplishment of results such as the donor evidently desires to accomplish.

There is every reason why the public interest as well as the interest of the donor should be cared for. It is suggested that the donor be given the full power and authority to select the main purpose of his gift, but that the community be permitted, from time to time and by proper means and with due regard for all the interests of the case, to modify the administrative machinery by which the donor's money is being cared for, so that future generations may have a fairer opportunity to deal with their own problems in their own way, and so that the interests of the beneficiaries of the fund may be safeguarded.

It is reasonable to assume that the memory of a donor will be preserved with greater respect by future generations if they perceive that he was sufficiently open-minded to include in his thinking the idea that conditions would change and that the machinery which he set up and adapted to the conditions at the day of his death would not necessarily be equally well adapted a thousand or two thousand years hence. If the donor desires to leave his property in perpetuity, he

should take time to consider the consequences of a perpetuity.

In another place Mr. Rosenwald says:

Sometimes perpetuities are created only because lawyers who draft deeds of gifts and wills have not learned that money can be given in any other way. More often probably, perpetuities are set up because of the donor's altogether human desire to establish an enduring memorial on earth—an end which becomes increasingly attractive to many men with advancing years.³

Senator Couzens, of Michigan, in the creation of a Children's Foundation of ten million dollars, stipulated that principal as well as income should be expended within a period of twenty-five years.⁴

Arthur J. Lacey, Esq., of Detroit, one of the attorneys for the trustee corporation and the fund, said:

Senator Couzens is opposed to holding a large fund of this kind in perpetuity. He wants the coming generation of children to get the entire benefit and prepare itself to assume a similar responsibility to the succeeding generation. . . . He took the position that it is not from whom the money comes, but to whom it is going that is important.⁵

ADMINISTRATION OF CHARITABLE FUNDS

Taken by themselves, these utterances indicate a decided doubt on the part of various people of the advisability of giving money as in the past for charitable work in an endowment with restricted provisions.

³ "Principles of Public Giving," *Atlantic Monthly*, 143: 599-609, May 1, 1929.

⁴ "A Senator's Investment in Childhood," *Literary Digest*, 101: 26, May 11, 1929. See also "Our Lucky Couzens," *Collier's*, 84: 52 S. 7, 1929.

⁵ See also Pritchett, H. J., "The Use and Abuse of Endowments," *Atlantic Monthly*, 144: 517-524, Oct., 1929; and Young, James C., "The Dead Hand in Philanthropy," *Cur. Hist. Mag.*, 23: 837-42, March, 1926.

But these pronouncements do not stand alone. The courts have functioned in regard to the situation, and decisions of considerable significance have been made. For many centuries, there has been a principle of Anglo-Saxon jurisprudence relating to this matter, called the cy-pres doctrine. This rule says in effect that where the particular method of administration of a trust fund has become difficult or unreasonable to a degree, the court shall modify the administration in the interests of the main purpose desired by the grantor of the fund.

The most recent development with reference to this rule is to ask the court to employ it where the interests of the beneficiaries of the fund are involved. Thus, if a grantor creates a fund to operate an orphan asylum, the modern tendency is to urge the courts to decree that the orphan asylum which shall be operated shall be the kind most suitable for the care of children, according to our present-day views. If, in the future, there should be discovered better ways to operate agencies in this field than those we know at present, there is every reason why the courts should insist that no language of the donor should be allowed to interfere with the best interests of the children.

It is well, perhaps, to cite a few illustrations of this situation.

As long ago as 1899, The Union Temporary Home for Children in Philadelphia was permitted by a decree of the Court of Common Pleas No. 3 to put into operation the following resolution (1886):

Resolved that the parents of children now in this institution be notified to remove them by February 1, and that the matron be instructed to inform all who need help in the temporary care of their children, that the Children's Aid Society will give that needed help.

Even earlier, in 1887, the Philadelphia courts had permitted the Pauline Temporary Home to pay over its funds to the Children's Aid Society. In both of these cases, the issue was the change from institutional care to home care for children.

Following this in point of time came similar decisions by the Massachusetts courts in 1914, permitting the Huntington Institute for Orphan Children, created for the "purpose of purchasing, building and equipping farms, residences or homes for the children, or any of the children under its care," to hold its property for foster family care and not for an orphan asylum. The work is now conducted under the direction of the Boston Children's Aid Society.

In the same year, the court allowed the Gwynne Temporary Home in Massachusetts to turn over its property to various family relief and foster family organizations—among them, the Boston Children's Aid Society.

To summarize the situation, then, we find at the beginning of the ten year period, in different localities, a definite dissatisfaction with certain projects as expressed in endowments. By the end of the period, that dissatisfaction has crystallized into specific points of view, so that, as to future gifts, a new sentiment is abroad which will modify the situation to some extent during the next ten years.

Not only are grantors modifying their point of view, but the whole machinery of the Community Trust has come into being as a protest against the rigid restrictions of outgrown and unwise wills.

ILLUSTRATIVE CASES

The foregoing material has been merely an introduction to the present situation. Here it is proposed to discuss a series of four cases in Penn-

sylvania where interested persons in the community actively went before the courts, either as witnesses or as *amici curiæ*, with suggestions as to methods of improving the administration of charitable endowments.

The significant factor here is that the group that raised the points were not content to deal with present or future bequests. They wished to have the court pass upon the desirability of modifying money already left for charitable purposes so that it might be more valuable in the future. This active effort to modify existing charitable endowments in the interest of the beneficiaries is the newest development in the field, and one which seems desirable.

These four cases are:

1. The Estate of John Edgar Thomson, deceased. In the Orphans' Court of Philadelphia County No. 310, January Term, 1881.

2. The Estate of Amanda James. Orphans' Court of Philadelphia County No. 449, January Term, 1891.

3. In the Orphans' Court of Northampton County, Pennsylvania. In re: Estate of John F. Beitel, deceased.

4. The Estate of Charles E. Ellis, deceased. In the Orphans' Court of Philadelphia County No. 154, October Term, 1910, 8, D. & C. 775.

In each of these cases there were certain similar facts, but each turned on a different point of law. In each case, there was a fund of money available for the care and education of children. In each case, the fundamental question was whether it was socially desirable to have institutional type of care or some system more in accordance with the Mothers' Assistance Fund plan of home care under supervision. In each case, the provisions of a will required consideration to determine what, if any, modification could be accomplished. The distinctions are bet-

ter set forth in a brief statement of the facts of each case.

PLAN CHANGED FOR CHILDREN'S INTERESTS

John Edgar Thomson, a former president of the Pennsylvania Railroad, upon his death in 1874 left a fund of money for the education and maintenance of female orphans of railway employees, whose fathers had been killed while in the discharge of their duties. Preference was to be given to families of employees on certain railroads. The trustees established a school in Philadelphia, which after twenty years existence had but forty pupils. In 1922, the trustees engaged in an extensive publicity campaign in which information as to the school was brought home to all the railroad men in the United States. The result of the effort was to gain twelve pupils. Subtracting those who graduated, the net gain to the school was five new members.

The trustees then brought before the Court the question as to what should be done. The Court viewed the matter in a somewhat new light, saying in part:

The trustees undoubtedly have a very different problem to meet over that existing at the time of the death of J. Edgar Thomson in 1874. The railroad man was then one of the poorest paid in the country; today he is the best paid, best clothed and best housed of the laboring interests of the country. In addition thereto the Workmen's Compensation laws now adopted in most states have complicated the problem, with the result that the widowed mother, who is now usually left in a better financial position than heretofore, having the aid of compensation, very reluctantly will permit her daughters to leave home.

The Court appointed an *amicus curiæ* to study the social implications of the problem. The *amicus curiæ*

sought information as to the best plan from the standpoint of the children. Qualified child experts advised him that there was general agreement upon the proposition that for normal children, home care was superior to institutional care. If the child's own home was not suitable, then a good foster home was to be preferred. Institutions were the last resort. He reported, urging the trustees to experiment with the plan of aiding the children in their own homes according to the Mothers' Assistance Fund plan, and at the same time to continue the present school for a period of three years, after which a comparison of the two should be made. The Court then continues:

It was with much pleasure that I learned that the trustees had exercised their discretion and had unanimously approved the recommendations of the *amicus curiæ*, and that they had the opinion of counsel that the recommendations are within the terms of the will of this testator.

The will of the testator is very broad as regards the powers of the trustees, in that they are empowered to "appropriate the remainder of the net income of my estate . . . or so much of it as may be judiciously applied thereto, to the education and maintenance of female orphans of railway employees whose fathers may have been killed while in the discharge of their duties."

It will be seen that the primary intent of the testator was the maintenance and education of orphans of railroad employees. He has not directed the erection of a school but has left his trustees free to attain the objects he had in mind, in such a way as should appeal to their discretion. The plan proposed by the *amicus curiæ* is well within the limits of the provisions of the will.

The action of the trustees in approving the recommendations of the *amicus curiæ* has my approval and they have to operate the trust along these lines for a series of years, when the results should be carefully gathered and a study made of the new compared with the old method of operating the trust.

Thus the Court approved the use of a method of administering the trust in accordance with the best social evidence obtainable as to what was best for the children.

BEST STANDARDS RECOGNIZED

The estate of Amanda James presented a different problem. Here the testatrix had left a will which provided in effect that a portion of her estate should be divided by the trustee, subject to the approval of the orphans' court of Philadelphia county, among five agencies that gave particular attention to the care of girls. The trustee, a trust company, having to make the selection from among a large number of beneficiaries, sent out a general notice so that all interested agencies might apply and so that none should feel excluded. The trustee was nearly swamped with applications.

In order to devise some order and system, a group of seven agencies in Philadelphia, all standard in their nature and methods, and all proponents of the system of home care for children, united in presenting a report to the trustee, urging upon it not an indiscriminate selection, but the pursuance of a definite policy, based upon a desire to pay the money to those agencies which were giving the sort of care which social workers generally regarded as best for the children.

The report emphasized the superior importance of home care over institutional care, especially for girls, and pointed out that the main purpose of the testatrix would be better served by a gift to those agencies which adhered to the best modern standard.

It was a matter of satisfaction to have the trustee make, and the Court approve, the selection of four of the five agencies from the group presenting this report. It signified an acceptance by this trust company of the proposi-

tion that there were standards of child care which should be encouraged. Included in the selected agencies were some which cared for and supported girls in their own homes.

OBJECTIONS TO INSTITUTION OVERRULED

In the Beitel estate, a further set of facts was presented. The money was left to establish a home for children. The amount was such that only a few children could be taken care of, and so the trustees, if they followed out very strictly the testator's plan, could establish only a home of cottage style, where a few children could live in a manner similar to that of a normal family group. There were parts of the will which indicated that even broader discretion might be exercised in the interests of the children.

The trustees, however, conceived a larger plan. The land left by the testator was valuable. They asked the Court to permit them to sell the land, and, with the proceeds, to buy another piece of land and erect on it an orphan asylum.

When the matter was heard in court, a group of persons interested—among them the representatives of the State Department of Welfare—urged upon the Court the relative undesirability of an institution as a place for normal children and the importance of construing the will and modifying it, not with reference to the property so much as with reference to the welfare of the beneficiaries.

In some way or other, the trustees reached the conclusion that they would not proceed with this project, and the case languished for a year.

At the end of that time, the trustees, abandoning their first program, came forward with a new plan. They found that a Moravian school for boys was about to discontinue its work and

that the plant was available for purchase. They petitioned the Court for leave to sell the property left by the testator, buy the school property, and operate the asylum there.

Again objections were filed by interested persons to the effect that the school property was so much larger than the testator had had in mind that it should be considered outside the scope of the trustees' powers. It was also urged that the school plant would establish the type of institution for children most objectionable from the standpoint of benefit to the children. The Court was unable to agree with the objectors, and permitted the trustees to go forward with their plan.

The importance of the case is not that the objection was lost, but that it was made at all, so that the Court was required to decide upon the legal right of a contention that the welfare of the beneficiaries should be considered paramount. A second important point is that the trustees probably had brought to their attention the fact that their policy was out of line with the best judgment of child care experts.

INSTITUTIONAL METHOD SUSTAINED

In the Ellis case, also, an effort was made by individuals interested in the subject to persuade the Court to require the trustees to modify their method of administration of the fund. Here, the testator had left a sum of money for the education of white fatherless girls. The trustees had constructed an institution, but found after ten years or more that the income was not being expended each year and had accumulated a large surplus. They petitioned the court for leave to add the surplus income to the principal, and when that was denied, to expend it in an enlarged program of building to take more children.

Objection was raised that the method employed by the trustees was not the best for the children. The case has been extensively discussed elsewhere.⁶ It is enough to say here that, the legislature having swept away the law regarding the right of a trustee to accumulate, and certain other factors intervening, the court permitted the trustees to continue with their original program of expanding the institution.

Thus, of the four cases, the two where the trustees were willing to make the change, resulted in modification of the method of administration in the interests of the children from a social standpoint. The other two, where the trustees resisted the suggested improvements, were for the present victories for the trustees.

The significance of these cases lies in the effort to modify the endowment rather than in the success. The victory of the trustees in the last case was by no means overwhelming. There is every reason to believe that as the courts and trustees come to appreciate more clearly the advance in social standards of the last quarter century, they will be more willing to continue the modification in the interest of the welfare of the beneficiaries. It is likely that many more of these existing foundations will come before the courts in the near future for modification. At the present time, we note the progress during the past ten years.

APPENDIX

The Survey for August 15, 1929, page 525, comments upon this desire of a testator to tie up his money perpetually, as follows:

⁶ Murphy, J. Prentice, "Crazy About Families," *The Survey*, June 15, 1929; Bradway, John S., "The Social Workers of Philadelphia versus the Dead Hand," *The Social Service Review* Vol. 3, No. 3, p. 422; No. 4, p. 597. The case is found in the records of the Orphans' Court of Philadelphia County, Pennsylvania, Oct. Term, 1910, No. 154.

"'Latta Will Creates \$160,000,000 Fund,' shouts a recent headline of the *Indianapolis Star*, '\$50,000 to Make Civic Endowment after 200 Years; Library, University, Music Center to be Built from Bequests Available in 2129.'

"The story relates how one Will H. Latta, a lawyer, killed a week prior to the newspaper account, had desired to perpetuate his name for the benefit of posterity, and so wrote a will leaving \$50,000 to be held in trust for 200 years. Income was to be added to principal and year after year the fund was to grow until it attained the magnificent proportion set forth in the headline.

"The first reaction of the layman is to admire a generous man who, not having enough money at the time of his death to benefit his native city as he would like to do, directs an accumulation of property until something substantial may be accomplished. One's second thought is one of pity for the futility of human ambition.

"Who knows what Indianapolis will be like 200 years from now? The last 200 years have produced changes revolutionary enough to render of doubtful value any attempts made two centuries ago to foresee and provide remedies for needs of today. The court records of England and the older colonies in this country are full of wrecks of ambitions as benevolent as that of Mr. Latta. Generous souls left money to rescue Christians from Barbary Pirates, to emancipate the slaves, to aid yellow fever sufferers in Philadelphia, and to do a thousand and one things forever. But conditions change swiftly and eventually an appeal must be made to the courts to modify the method of using the money, or the fund can only continue in idleness.

"Unless Mr. Latta possessed extraordinary powers of prescience how can he be sure that Indianapolis 200 years from now will want what he conceived to be necessary? Others may in the meantime set up the very institutions he has in mind. Maybe something superior to a university will be evolved. Maybe a music center will become as out of date as a covered wagon, a Franklin stove, magical incantations, and a host of other factors at one time of essential importance to people generally.

"Why should a man of today try to make a gift to the Indianapolis of his great, great, great grandson? Why not assume that future generations will be as able to solve the civic and artistic problems of their day? Plenty of wealthy men today, Senator Couzens and Julius Rosenwald, to mention two, believe that each generation should cope with its own problems and not be forced to carry on its shoulders the outgrown tools of the philanthropy of an earlier day.

"There is also a menace in Mr. Latta's gift. Suppose everybody set aside in his will \$100.00 to accumulate until it had become a billion and then to be used for some work which at present seems an outstanding contribution to the community. In time all the property in the United States might be drawn into the control of these trust funds and could be used under the law only in the specific manner indicated by each testator. Think what a horrible choking of the usefulness of property! Think how everybody would become not a robot but a slave of an economic order where all property was under the exclusive control of the dead hand.

"You say that this is a fanciful notion and that I am no better equipped to pierce the future than is Mr. Latta. Granted. But there still linger before our eyes two ideas in connection with Mr. Latta's bequest—the futility of trying to foresee the future; the menace in piling up property out of the reach of future generations to be used more or less rigidly for the purposes, often quite fantastic, of a long-dead testator."

Again, *The Survey* for February, 1930, page 582, makes this comment:

AN ORPHANAGE ADAPTS ITSELF

"At the ripe old age of eighty the Chicago Orphan Asylum is showing that its arteries are far from hardened, by embarking on a new program in line with the modern developments in child care. The first step was self-analysis, with the assistance of the Graduate School of Social Service at Chicago University, the Elizabeth McCormick Memorial Fund, and the Institute for Juvenile Research. Ethel Verry, an experienced children's case-worker, became superintendent. As a

result of two years' experimental work, it now plans to sell its congregate institution which at present houses 130 children, and to develop foster-home care and small scattered units for the care of children who need a period of residence in a controlled environment. Twenty-four children are now in foster homes and this number will be increased as family homes become available.

"More evidence as to the economy and effectiveness of foster-home care comes in the report of the Duke Foundation, recounting recent experience in certain institutions in North and South Carolina. During the year the number of institutions using this plan increased from six to thirteen, and they now show a total of 450 children receiving aid in their own homes and 464 in foster homes."

Again, one reads the pamphlet issued by the Elizabeth W. Murphey School at Dover, Delaware, and in particular the portions which indicate the likelihood of a change. These quotations are taken from page 11 of the pamphlet:

"Above all else a child must have the sympathetic understanding of adults who come in daily contact with him. Nothing more tragic can come into the life of any child than to be misunderstood and to fail to receive that sympathetic encouragement which is much more important than food, raiment, shelter and the other daily requirements of his life.

"The purpose of the Elizabeth W. Murphey School, therefore, is nothing less than a

plan to meet, insofar as possible, the needs of every child in its care to the end that these children will be well fortified to meet the problems of life in whatever manner they may present themselves. With splendid equipment to work with and a staff alive to its responsibility, there should result a type of American citizenry of whom all will be proud."

It is significant to note the quotation on pages 23 and 24 from the "Declaration of Gift Supplemental to the Declaration of February 20, 1925." Here the donor of the Fund makes the following statement:

"My desire is that the benefits from the Trust I have established shall be permanent, and I sincerely hope and believe that if properly administered it will be successful, as contemplated in my original Declaration of Gift, but if it should not be, for any good reason, it is my thought and purpose that its terms and provisions shall not be regarded as so inflexible as to prevent the exercise of any discretion on the part of the Directors in the use of the income arising from the Trust, or prevent the Court from construing the Trust so as to make it workable, and at the same time carry out and harmonize with my intention, but if, after my decease, it shall become necessary, in order to administer the Trust, to depart from the specific terms of Declaration, I desire and direct that such departure shall not be made except by and with the approval of the Chancellor of the State of Delaware."

Research in the Field of Child Welfare Since the War

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THE field of human interest indicated by the title of this paper is difficult to define for two reasons. First, the activity known as research reaches all the way from profound study to somewhat hurried investigations; second, a definition of child welfare as distinguished from social welfare in general remains to be written. Children are persons, and as such, share with adults the common needs for physical and mental health—food, housing, clothing, medical care, human affection, outlets in play and work, and participation in group life, both inside and outside the home. Some of the problems of child welfare grow out of the lack of the basic means of making life worth while for any one, whether adult or child, and are broad human problems.

But certain of these needs of children, while not wholly different from the needs of adults, may in a sense be regarded as presenting specific problems, for neglect of them in childhood produces more devastating consequences on mental and physical development than similar hardship in adult life. The baby's need for proper food and shelter can be neglected only a very little while and its life is snuffed out. Physical ills and defects in the young child often interfere with the processes of mental and physical growth, and if allowed to go untreated, undermine his health for life. Unhygienic mental conditions are thought to warp the personality of the child and to leave him permanently handicapped.

The person who has attained fairly normal adulthood can usually fortify

himself against adverse physical and mental conditions by finding and constructing for himself reasonably satisfactory outlets and substitutions; but for the child this is a difficult and often an impossible feat. The adult is less at the mercy of circumstance, and hardship does not play the determining rôle in his progress that it may play in the development of a child. Moreover, adults can come nearer to knowing what they need and asking or fighting for it than can children. It is of greater concern, therefore, to society to insure the essentials of life, both material and spiritual, to children than to adults. Perhaps it is that extra effort put forth and the adaptations worked out to make sure that children are properly provided for, that is the essence of child welfare.

SCOPE OF CHILD WELFARE

Since the welfare of children is bound up with these general and special conditions, it follows that its problems are almost all of the human problems facing the world. They are the unanswered questions of science in the quest to know all aspects of human beings as they are born and develop, as they succeed or fail in realizing their human possibilities. The problems of defective social organization which prevent the thorough application of all the benefits which science is already prepared to confer, are among the matters basic to child welfare. Better national, class, and race relationships are fundamental to the health and the happiness of children as well as of adults.

Modern warfare and industrial strife can play havoc with the nutrition and with the family life of the children of whole generations and of whole classes of the population. The children of groups with great power and wealth often suffer, not from material needs but from living in mentally unhygienic conditions. All of the economic, social, and religious forces which affect the organization and the functioning of families, of schools, of neighborhoods, as child caring units, are related to the modern concept of safeguarding and cultivating child life.

This vast sweep of problems reaches from the concerns of the Assembly and the Secretariat of the League of Nations to those of the village health officer and school principal, and sets the stage for research in child welfare. This is not a field exclusive of other problems of human welfare, but is rather a special aspect of almost all problems, not omitting even the care of the aged, with all that is implied for children in the overloading of meager family incomes with a quota of aged and of children too large to be maintained.

Simply to report, to say nothing of placing and evaluating individual pieces of research which might be included in such a panorama, is beyond the powers of this reviewer. All that can safely be done is to bring to notice some of the active centers and the authoritative compilations made by others familiar with the many fields which are involved. Such a treatment cannot even be called secondary; it must in many cases be tertiary. As Dr. Arnold Gesell recently remarked when confronted with a similar task:

We must reckon with a bewildering array of studies ranging from the effect of music on the secretion of the milk of the dairy cow, to the intelligence of Italian and Jewish children in the habit clinics of the Mas-

sachusetts Division of Mental Hygiene. Because of the very variety of publication, it might be profitable for some bibliographical statist to make a taxonomical analysis of current titles, furnishing a graphic expression of the flow and volume of research. However, it would be difficult to draw up a true picture, because it is impossible always to distinguish those remote but influential studies which the future alone will prove pregnant. I shall simplify the task by attempting to locate a few areas of investigation which reflect trends and results in the clinical study of problems of child development.

And Dr. Gesell had a limited assignment compared with this one.

FIELDS OF INQUIRY

In the main, the research falling within this almost boundless territory has concerned itself with three kinds of problems: (1) studies of the growth of the body, including the development of the nervous system; (2) studies of mental development and behavior; (3) studies in social administration, including: (a) child welfare conditions and resources in communities; (b) studies of child caring as a special branch of social work.

There has also been a revival of interest in the history of child care as one of the concerns of adult minds. Articles on the subject are appearing in the recent editions of old and new encyclopedias and there have appeared studies such as: Miller, *The Child in Primitive Society*; Mead, *Coming of Age in Samoa*; and, for contemporary modern society, Thomas and Thomas, *The Child in America*. In March, 1930, a special quarterly publication, *Child Development*, made its first appearance, under the editorship of Buford Johnson of the Department of Psychology of the Johns Hopkins University, John E. Anderson of the University of Minnesota, E. V. McCollum and Edwards A. Park of the

Johns Hopkins University, Mandel Sherman of the Washington Child Research Center, and T. Wingate Todd of Western Reserve University.

CENTERS FOR RESEARCH

Before undertaking to indicate something of the development in particular fields of interest, it is in order to call attention to the growing number of child welfare research centers making their appearance in the United States, Canada, and South America. These have grown up under both academic and other auspices. While studies of the child's growth and characteristics and of children's behavior in groups are not new in the sense of being subjects only recently engaging men's attention—individual interest in them reaches back to Plato, and popular interest at least to Rousseau—it is true that in this country the movement for many-sided investigations and research is only about fifty years old. "The first important study of childhood" is credited to Professor Henry W. Bowditch, who in 1879 published the results of his work on physical measurements of Boston school children between the ages of five and fifteen.¹ In 1881, the American Social Science Association, through its Committee on Education, set out to promote general child study.

From that time on, there has been a spread of clinics and laboratories for child study in universities, institutions for the mentally defective, and elsewhere. Child study societies have been organized in many places and for the country as a whole. Publication of the results of close observation of children began with Millicent Shinn's *Biography of a Baby* in 1893. In these earlier years, G. Stanley Hall stood

out as one of the great and ardent leaders who sent forth from Clark University, throughout the country, students whose influence has been vast and immeasurable.

In the decade just past, influential child welfare research organizations have been the United States Children's Bureau, the Institute for Juvenile Research in Chicago, the Judge Baker Foundation in Boston, the Institute for Child Guidance in New York, the Merrill-Palmer School in Detroit, and the child welfare research institutes and stations in the universities. The first five organizations have been so prominently before the public that it is scarcely necessary to describe them here. The first serves the United States and the insular possessions, and is an organization of great national and international influence. The second is a publicly aided service for Illinois, while the last three are maintained by private bequests and funds. Important teaching and research functions are combined with a local service to children.

UNIVERSITY CENTERS

Among the university centers with an inclusive program, the child welfare research station organized in 1917 at the University of Iowa comes most readily to mind. It was the pioneer in the United States, if one ignores the early work of Clark University. Under the able and modest leadership of the late Professor Bird T. Baldwin, this research group, now numbering nearly seventy persons, has made notable and numerous additions to the literature of child development.

The law which created the station set up as its objective the investigation of "the best scientific methods of conserving and developing the normal child." Studies of normal and superior children have included data on physical

¹Tulchin, Simon H., "History of the Child Study Movement," *Welfare Magazine*, Illinois Department of Public Welfare, May, 1926.

growth, nutritional improvement, and mental and social development. Four preschool laboratories have been the center of numerous studies in child psychology, both in the field of learning abilities, general and special, of motor coördination, of speech and the use of language, of personality types, and of such personality traits as selfishness, kindness, perseverance, coöperation with regard to the rights of others, constructiveness, peevishness, anger, and fear. Of particular interest in the long, impressive list of publications of the Iowa station—222 titles are listed as of August, 1929—is *A Study of Farm Children in Selected Areas in Iowa*, by Baldwin, Fillmore, and Hadley, and Professor Baldwin's best known work which relates to the correlation of height, weight, and ages of children.

At the University of Minnesota, the Institute of Child Welfare, under the leadership of Professor John E. Anderson, Dr. Florence L. Goodenough and Dr. R. E. Scammon, has been actively at work during the last few years. Few of the books and articles listed as its output appeared before 1926. The problems of mental testing of young children, the hygiene of sleep, the growth and physical development of children, hunger mechanism, anger in young children, standardized measures for the socio-economic status of families and the description of nursery school procedures, are among the subjects which have engaged the interest of those in this research group.

Other more recently established child welfare research bodies under academic auspices are: the Institute of Child Welfare Research at Teachers College, Columbia University, organized in 1924 and now operating under the direction of Dr. Helen T. Woolley; St. George's School for Child Study at the University of Toronto, of which Dr. W. E. Blatz is director; and the

Institute of Child Welfare of the University of California, where Dr. H. E. Jones, a psychologist, is in charge.

Besides these avowedly "child welfare research bodies" in academic institutions, there are other centers not labeled as such, but contributing notably to the science of child development and care. At Yale University, the Psycho-Clinic, under the direction of Dr. Arnold Gesell, has won the recognition and the gratitude of all interested in the development of children. The outstanding results of the clinical studies made there have been made promptly available in *The Mental Growth of the Pre-School Child*, 1925, and in *Infancy and Human Growth*, 1928. Dr. Gesell has worked to establish criteria by which the mental development of babies and preschool children may be measured at very short intervals. "The essential principle is the attainment of a specific behavior pattern at successive ages."

At the Western Reserve University Anatomical Laboratory, Dr. T. Wingate Todd has, with his associates, been carrying on researches in growth—"the qualitative differentiation of skeletal parts, chiefly in the articular ends and epiphyses." Incidentally, Dr. Todd has pointed out the interesting relationship between his type of research and that of Dr. Gesell. Dr. Todd gives it as his opinion that

qualitative indices derived from skeleton and nervous system are the most practical measures of growth. The behavior pattern serves as the most efficient index of growth at precisely that period (birth to five years) when the skeletal index fails.

STUDIES OF BODILY GROWTH

Those who have probed farthest into the question of growth have found it necessary to distinguish in the use of that term between two fields of inquiry. There is first the use of the

word to refer to a process, and second, the use of the word to describe the result of that process. According to Dr. Richard E. Scammon, almost all of the research carried on in growth has been confined to the second field—the quantitative and qualitative studies of the child's body and of the reactions of its nervous system, and the experimental studies of animal growth. Of the growth process itself, almost nothing, according to Dr. Scammon, is known. Its study lies in the field of biochemistry and biophysics, and constitutes a major research problem of pure science.

In this country, measurement of growth as evidenced by height and weight with age correlations, and in the analysis of growth of various body parts in both the prenatal and postnatal periods, has been a subject of active interest. Reference has already been made to the work of the Child Welfare Research Station at the University of Iowa and of the Psychoclinic at Yale.

Reviews of the historical development in this field of study, and bibliographies were prepared by Professors Todd and Stratton for the 1929 conference on research in child development of the National Research Council.

It has been recently announced that the General Education Board of the Rockefeller Foundation has made a grant to the Graduate School of Education of Harvard University to enable Professor Walter F. Dearborn to complete the intensive study of individual growth which has been in progress since 1921. "The purpose of the investigation is to establish the main facts of individual mental and physical growth, to define the elements of normal development, and to discover the extent of the deviations found among ordinary school children." Many of the children will have been observed for a period of twelve years.

Paralleling these studies of growth have been studies in nutrition. Children of all ages and pregnant and nursing mothers have been under active study. Data on human beings have been largely supplemented by those secured through experimental laboratory work with animals.

Any one with even the mildest interest in the efficient feeding of human beings at various periods of their lives will find truly fascinating, the summaries of recent scientific contributions in the study of nutrition prepared by Dr. Lydia J. Roberts of the University of Chicago and Dr. Charles A. Wilson of the Merrill-Palmer School for the 1929 conference of the Committee on Child Development of the National Research Council. It required some fifty single-spaced typewritten pages for Dr. Roberts briefly to summarize the recent results of research in the factors of hæmoglobin formation, the effects of high and low protein diet, the nutritive value of cereals, an optimum versus an adequate diet, underweight in children, and problems of feeding. It would be impossible further to condense Dr. Roberts' summary and retain any degree of clarity. Probably the most arresting of the research projects reported were the experiments of Dr. C. Davis of Chicago with a group of babies who from the age of seven months were allowed to select their own diet from a relatively large assortment of natural foods. Satisfactory results, judged by the children's physical condition and food habits and attitudes, were reported.

STUDIES OF MENTAL DEVELOPMENT AND BEHAVIOR

The field of mental measurement, which had its inspiration in the Binet tests, has become a vast and complex scientific battleground, which the lay-

man views with gratitude for past achievement in aiding in the care of the feeble-minded and the classification of school children, but with perplexity at some of the turns which thinking has taken. Recent Yearbooks of the National Society for the Study of Education and the Critical Review of the Committee on Child Development of the National Research Council introduce the issues raised by recent studies.

The decade began in heated debate over the interpretation of that vast body of psychological data from the army tests, covering men of all races and classes in society. The tests had been given for purely practical purposes of using men, as found, for military purposes; but soon the air was full of discussion of the mental levels of men of different races, nationalities, classes, and localities. Implications of constant and hereditary character of the intelligence quotient were in the air.

Had these implications been scientifically established, the effect on social organization would have been profound, and wholly different ideas from the old theories of equality of opportunity would have come to reshape child welfare programs. But as the years since the Great War have gone by, the hypothesis of the fixed character of intelligence as measured by tests has not been established. And now, particularly arresting are the findings regarding changes in the intelligence quotient of foster children after placement. Frank N. Freeman studied 401 such children placed by a Chicago society at various ages and under a variety of conditions. They were all tested before placement. On a retest these children showed "a significant gain," inversely proportional to the age at placement. Siblings to the number of 250 were also tested. Out of all the data, Freeman concluded that differences in the environments

of these children were at least as important in determining the results of the tests as were hereditary differences.

The end of the decade sees a wholesome, critical attitude gaining the ascendancy in this field which holds so much of potential good or ill to the ideal of giving every child a first-class chance. In reporting on the work done in this field, Dr. Florence Goodenough called attention to the unsatisfactory state of some would-be researches.

Uncritical adoption of unsuitable or inadequate techniques, both in the collection and in the treatment of data, failure to control experimental conditions, or to verify conclusions through the application of such crucial checks as can be applied, interpretation upon the basis of previous conviction rather than upon the basis of data, and an optimistic faith that slovenly procedures will somehow all be made right through a gratifying process known as "cancellation of errors" is still characteristic of far too many of the published studies.

If it is important for the research worker to reserve judgment, how much more so is it for those in positions of power over the lives of children not to conclude too much from test data!

Studies in the development and the conditioning of the emotional traits have been carried on in many places. They are coming to be regarded as so inextricably interwoven with the development of the intellectual life that neither can be understood in isolation. Nursery schools have proved strategic places for the observation of the early manifestations of personality and for the study of methods to modify those traits thought to handicap the child in his contacts with other people. The Merrill-Palmer School has been active in this type of study.

MENTAL HYGIENE ACTIVITIES

The last ten years have seen the rapid spread of mental hygiene and

child guidance clinics throughout the United States. To a large extent these organizations have directed their resources toward service to children rather than toward research in the strictest sense, although they are all potentially centers of study. Some of them, notably the Judge Baker Foundation in Boston and the Child Guidance Clinic in New York, have been able to analyze their experience in diagnosis and treatment and to publish important findings. These will be referred to later in other connections, since the import of most of them lies in questions of social organization and the modification of environmental conditions.

The literature of mental hygiene has grown enormously within the last few years. The principal channel for bringing this output to the attention of those who are interested has been the quarterly, *Mental Hygiene*, published by the National Committee on Mental Hygiene, and the various meetings and conferences culminating in the International Congress on Mental Hygiene held in Washington in May, 1930.

In a comparatively new field, mental hygienists have needed to spend a vast amount of energy in preaching and propaganda to make the public aware that here is a great sphere of service to those people who are physically healthy enough, or at least as well as they are ever likely to be, but unhappy or troublesome. There is unbounded need for making life more tranquil and more satisfying. The mental hygienists have great faith that this can be done. So far, they have been more prolific in hypotheses than in proofs or in findings and conclusions regarding the causal factors in behavior which pass muster before rigid scientific tests. This argues no failure on their part. It is only that the problems which they have so recently and so gallantly attacked are huge, and

that research in this field requires a large measure of community understanding, consent, and coöperation. Social relationships of all sorts are called into question, especially those which are freighted with emotion. *The Problem Child at Home* and *Children's Behavior and Teachers' Attitudes* are good expositions of the mental hygiene attack, which is so keenly alive to the effect of the interaction of personalities and of early conditioning of the emotions.

MORE PRECISE METHODS NEEDED

It has been suggested that if the work of these clinics is to have a wider scientific significance, it will be necessary to replace or supplement the "clinical impressionism" which forms the basis of much of their observation of cases by some more precise and sure method of examination. Tests of results of treatment also must be constructed. Professor H. E. Jones of the University of California has recommended the establishment of adequate controls as one way of testing treatment.

We have as yet no studies in which, to cite a possible example, fifty cases of a certain type of asocial behavior are given a certain treatment, with results which are compared with fifty matched control cases. . . . So long as our interests in personality study are concentrated upon problems of individual adjustment, our ability to deal with these problems on a scientific basis will be severely limited. If these strictures apply to the conventional case studies of our clinics, which work forward from hypothetical causes to cures, they are even more applicable to those psychoanalytic methods which rely chiefly upon deduction from incompletely verified principles.

If the case studies are on shaky scientific ground, the methods now employed in rating and testing personality traits as evidences of character are almost worse off, according to Dr.

Jones. Those psychologists who accept aggressive behavior as an index of aggressive character merit the amused criticisms of the psychoanalysts, who point to aggressiveness as an index of a fundamental shyness or of a momentary fear or of jealousy or of a reaction to repressions in the home. Academic psychologists are becoming increasingly aware of the necessity of other approaches than direct short-time observation to the study of the "dynamics of character."

To measure the results of character education, Professors Mark May and Hugh Hartshorne have devised a series of ingenious group tests of certain social traits. Some of the results of their work have appeared in the two volumes on studies in deceit, in service, and in self-control. This reviewer is not competent to pass judgment on the efficiency of these tests or on the feasibility of applying them broadly, but it is clear that in such an obscure field as character education, reliable measuring devices would be very useful tools. They would not, of course, do more than measure. That is, they would not explain how and why character changed.

The desire to know human nature and to understand its workings has become almost a passion in many quarters. The tantalizing thought that science, which has unlocked so many mysteries, will be able to lay bare the growth of mind and spirit and give control over personality and character urges more men and women each year to devote themselves to the quest. In 1925 Bird Baldwin reported that already, in his Child Welfare Research Station, they had found

that little children's personalities can be tremendously modified and improved through modern methods of observation and training if the training can be undertaken sufficiently early in the child's

development. New interests can be awakened, undesirable temperaments changed, fear complexes eliminated, social aversion and extreme shyness overcome, language habits completely modified, motor control improved and physical growth accelerated or retarded. Heredity furnishes the basis for education, but environment, nurture and training are the determining factors in producing the final product.

STUDIES OF SOCIAL ADMINISTRATION

The finding of ways by which to aid children's mental and physical growth—or at least to set the stage so that the child can better realize the possibilities latent within him—brings to fruit the dream of an early child welfare enthusiast, Richard Mulcaster, headmaster of St. Paul's in London, who even in the sixteenth century conceived of efforts which might "help nature to her perfection." But what of the application of such knowledge as we have, granted that there is vastly much more to be learned? The application of knowledge in this field depends on social organization—upon the use of human and material resources for the development of children. It is expected that the forthcoming White House Conference on Child Care and Protection will furnish the first great national accounting and will give an accurate picture of conditions of children, of the special efforts now put forth in their behalf, and of the next great objectives in the campaign of improvement of child care both by families and by others.

In the study of social organization to promote child welfare, the United States Children's Bureau is the pre-eminent organization. Created in 1912, it has worked in the fields of maternal and infant hygiene, child hygiene, mental hygiene and mental defect, juvenile employment and industrial problems of child welfare, dependency, neglect and delinquency

as child welfare problems, the conditions of children born out of wedlock, and recreation. Its most recent list of publications, January 2, 1930, contains 198 titles. Digests of laws have been made on almost all of the important subjects in child welfare, and field studies have been carried on in many types of communities from Porto Rico to California and from Texas to Minnesota. The Children's Bureau is also the most reliable source of information regarding child welfare conditions in countries other than the United States.

Studies in the field of social administration have dealt with a variety of subjects, from many divergent points of view. Child health, child labor, the problems of dependency and delinquency, retardation in school, and surveys of social machinery are the stock subjects.

The movement to revise the laws in the various states through children's laws commissions created the need for a great deal more information than was currently compiled in any of them. These commissions were seldom equipped with sufficient funds or experience to undertake extended inquiries. Many of them turned to the Children's Bureau and received very substantial assistance. Reports on child welfare conditions in Georgia, Kentucky, New Jersey, North Dakota, South Dakota, Wisconsin, Pennsylvania, Porto Rico, and other localities have been made. The State of Connecticut had in 1921 an efficient and able Children's Code Commission which carried on field investigations and published the results of its studies of the care of dependent children and of other aspects of child welfare.

CHILD LABOR

In the field of child labor, continuous study is carried on by the United

States Children's Bureau and by some of the state departments of labor, notably those of Pennsylvania, Wisconsin, and California. In the decade just past, this study has reached into rural child labor. The industrialization of agriculture creates a different type of farm work, which, for children, raises much the same questions as does their work in factories. *Child Labor—Facts and Figures*, just issued by the Bureau, summarizes the present child labor situation in the United States.

To test the effects of employment on the mental and physical development of children from fourteen to eighteen years of age, a group of employed children and a control group who remained in school were observed and tested annually in Cincinnati for four years and the findings were set forth in *An Experimental Study of Children*, by Helen T. Woolley and associates at the Helen Trounstone Foundation. The findings are inconclusive as to the adverse effect of work in general on children's health and mental development.

Outstanding pieces of work on the study of administration of health services are those of the Child Health Organization of health departments in eighty-six cities with less than 75,000 population, and its demonstrations financed by the Commonwealth Fund in Fargo, North Dakota, in Augusta, Georgia, and in other communities. The study of the health departments led to the construction by the American Public Health Association of its appraisal scheme, by which municipalities can measure the adequacy and the efficiency of their services. Reports on the demonstration work have made available to other communities all that could be distilled from experience when sufficient resources were applied to the solution of the problems of infant mortality and child health. At the present time, the Child Health Or-

ganization is working on the administration of school health services.

JUVENILE DELINQUENCY

The last decade has seen a wide interest in, and a comparatively large output of materials on, the administration of criminal justice and measures for the prevention of crime. Only those studies which relate to juvenile delinquency can be mentioned here, and in fact, not all of those.

A major contribution in this field has been that of Drs. William Healy and Augusta Bronner, *Delinquents and Criminals, Their Making and Unmaking*. Series of boy delinquents in Chicago and in Boston were followed up after a period of several years. Their treatment was analyzed and certain community conditions were studied. The efficiency of some supposedly corrective procedures and the influence of community attitudes toward crime, criminals, and police and court administration on the prevalence of juvenile delinquency and on the evolution of a boy or girl delinquent into a professional adult criminal were brought into the field of study.

Among the studies of administration are: those of the crime commissions which have taken an active interest in juveniles in several states and cities, notably in New York State; those of the National Probation Association, which on invitation surveys juvenile courts in communities throughout the country; and those of the Philadelphia Bureau of Municipal Research, which has studied the work of the Municipal Court in Philadelphia. This last organization holds a strategic position among the child welfare services of its city. The findings of the study of the Municipal Court, now in course of publication, will have a sobering effect on those who put their faith in the social service which politicians provide.

Besides studying the administration of criminal justice, the New York Crime Commission has probed into causes of juvenile delinquency. It has studied conditions in neighborhoods of various types and has analyzed the factors in the lives of forty-five pairs of brothers, only one of whom was delinquent.

Youth and Crime, a study by the United States Children's Bureau of the nature and the trend of cases of young offenders before the various courts in Chicago over a period of years, provides fact material on a situation which is fraught with myth and popular exaggeration. The researches now in progress by the United States Commission on Law Enforcement and by Harvard University promise further enlightenment on the problems of treatment of juvenile delinquency.

This decade has seen the publication of some descriptive studies of correctional institutions for girls. The Russell Sage Foundation has published Margaret Reeves' description of the girls' industrial schools throughout the country. *The Survey* has published Miriam Van Waters' description of the best schools of that type for girls.

Reconstructing Behavior in Youth, a product of coöperation by Drs. Healy and Bronner, Mrs. Edith Baylor, and J. Prentice Murphy, recounts the methods employed in, and the results attained through the use of, foster home placement for behavior problem children in Boston. Some children exhibiting each of the major sorts of misbehavior were among those included in the study. Successes and failures are reported and discussed. It opens a new range of possibilities in the treatment of behavior problem children and constitutes one of the very few scientific works on the results of social treatment.

CARE OF DEPENDENT CHILDREN

Studies in the care of dependent children have been largely the output of the Children's Bureau. The conditions found among the children indentured by the State School of Wisconsin, the methods employed in New Jersey, the care given in North and South Dakota, in selected counties in Minnesota, North Carolina, New York, and Pennsylvania, and in the District of Columbia, have all been the subjects of Bureau reports. The reports show the gamut from satisfactory care to shocking abuse.

An inquiry of a somewhat different nature was that of the State Charities Aid Association of New York, *How Foster Children Turn Out*. That society commissioned Miss Sophie Van Senden Theis, who has been in charge of placement for some years, to report on the children whom it had placed for adoption and who had attained adult life. Miss Theis' findings bring out that, while a considerable majority of the children came from families warranting little expectation that the children would turn out well, a large majority of them actually had established themselves as useful and orderly citizens. A relationship was established between the age of placement and the outcome, as was shown in the Freeman study in Chicago. Both studies found a larger measure of successful outcome or improved mental rating among the children placed at the younger ages than among those who had spent a larger proportion of their early years under adverse conditions.

The most recent study of the methods of child caring is the analysis of the social work positions in that field. A volume prepared by Margaretta Williamson for the job analysis series of American Association of Social Workers is in course of publication.

ACCOUNTING FOR THE WELFARE OF CHILDREN

Child welfare work in the United States has taken its form largely from our capitalistic and individualistic economic system. Instead of being largely a governmental concern, as it is in Germany or Australia, it depends to some extent on private initiative, which may spring from many motives, some disinterested, others selfish or partisan. Voluntary organizations often ignore the opportunities which are presented by health departments and by public school systems. In many communities, the agencies are unaware of what is being done in the whole field. Each enterprise goes its way unconcerned about any community-wide system which seeks to know and meet community needs or to make an accounting to the community at large. A few cities, notably Cleveland, have tried to get their child caring services into such relationship that a picture of the combined effort is possible.

The beginnings of statistical reporting systems covering the major fields of social work have been made by the Association of Community Chests and Councils, in coöperation with the Local Community Research Committee at the University of Chicago. The project begun by these organizations, and covering twenty-nine cities, is now to be taken over by the United States Children's Bureau. The Department of Statistics of the Russell Sage Foundation has also done pioneer work in aiding social agencies in common reporting projects. The Welfare Council of New York is building up reporting systems for groups of agencies in that city. On the basis of such reports and other data, it is seeking to work out indexes of social well-being to measure fluctuation from year to year.

The next step in such a procedure is

to apply those criteria and indexes to small population groups within great urban areas. Fortunately the movement to analyze census data for small areas in cities is gaining momentum. In this way, the variations in the incidence of the different forms of hardship and social inadequacy can be measured more accurately, associations of social factors can be established more scientifically, and social services can be more advantageously distributed. The rough observations of social workers have for years noted the association of poverty, disease, and crime, together with certain ethnic variations. Social investigation is moving toward somewhat scientific and precise measurement of these conditions and their modification as time flows on. We shall perhaps be able to do a little cautious predicting if we can establish trends in data for our different groups of people living under given sets of circumstances. To be specific, we may perhaps sometime be able to say with some degree of accuracy just what a reduction of family income, other conditions remaining constant, will mean in terms of tuberculosis, of infant mortality, and of family disintegration.

MORE KNOWLEDGE OF FAMILY LIFE NEEDED

Earlier, it was said that there was need to see how our basic social institutions were functioning in their relations to children. As yet, we have very scanty data about families in the United States. Alarmists rise from time to time and announce the complete collapse of the institution. Sociologists point to its changing functions. However unsatisfactorily families may be serving children and the community, it is true that almost all children still live with their parents and are supported by them.

Much light will be thrown on the

conditions of family life by the tabulation of census data on family groups which, it is understood, the Census Bureau is to undertake as soon as the tabulations of individuals are finished. These data include size and composition of families, employment of members, rent, and other important facts. Like the data on small tracts, they will afford that essential base of social facts on which to build further with materials from the schools, the police courts and correctional systems, the health department, the social agencies, and other sources of social information.

Just as the economics of family life and care of children needs more study, so the economics of the care of children away from their own families needs further clarification. At present we know that good foster care of any type is a costly enterprise, but not so costly socially as cheap foster care. We are driven back to the conclusion that more and better child care can be purchased by the community for less money from parents than from any one else. A rough analysis of the situation in Philadelphia was made by the writer for a paper published in the 1925 *Proceedings of the National Conference on Social Work*. The difference between the costs in the Jewish community, which aided families, and those of the non-Jewish, which emphasized institutional care of children, was significant and pointed to the wisdom of using the natural resources of parental devotion in all programs of child welfare.

COURT PRACTICES NEED STUDY

A field obscure and in need of further research is that in which there is judicial determination of children's cases. As long as judges judged according to law, their functioning could be clearly understood; but now the situation is far from clear. There seems to be gen-

eral agreement that a large measure of discretion must and ought to be allowed the judge in handling a child's case, whether it is one of delinquency of the child himself or delinquency of his parents leading to his neglect. But judges, apart from their knowledge of the law, are like other persons, swayed by a vast number of outside influences and personal opinions. Unless a judge studies social problems, arrives at some conceptions of sound social policy, learns the art of social diagnosis and treatment, and understands good social practice generally, his qualifications for handling children's cases are no better than those of any other citizen of wisdom and education—and personal opinions and prejudices!

It is therefore of considerable importance that what judges are doing and the reasons which underlie their determinations should be known, permanently recorded, and analyzed, and that some practices should be built up on which the public might depend. As things now are, there is obscurity and uncertainty in taking any child's case to court. This particularly applies in all of the *ex-parte* proceedings, such as those in juvenile and probate courts. One group of cases of this sort has been studied in several places throughout the United States. The practice of adoption has been examined in Massachusetts, Pennsylvania, and Illinois. The findings were not reassuring that the courts can be depended upon to safeguard children's interests.

COÖRDINATION OF SCIENTIFIC RESEARCH

One cannot go far in reviewing the research output for the decade without being aware of the need, clearly realized by many persons active in these researches, of bringing the many lines of inquiry and fields of knowledge into closer relationship and of bringing to

bear on the study of human problems all of the resources of science, wherever they may be found, whether in results or in methods and techniques of study.

For the child welfare field there is at least one organized means for bringing research people together and for giving a comprehensive view both of accomplishments and of deficiencies in the scientific study of the problems of growth and development. This is the biennial conference of the Committee on Child Development of the National Research Council, which is financed by the Laura Spelman Rockefeller Foundation. Three meetings have been held since 1925. The reports of these gatherings and the summaries and critical reviews of recent researches made in preparation for the 1929 meeting are the best single source available covering the field of mental and physical growth.

Similarly, there is need to bring other fields of research and learning into relationship for the study and the planning of broadly conceived child welfare programs. Research in law, political science, and economics, as well as in sociology and social history, is needed to underpin any scheme which sets out actually to raise the level of life for children. For when we undertake to give every child the best possible chance, we bring the whole social fabric under review. Such research and study of the business cycle, of real wages, and of distribution of income as are carried on by Professors Wesley C. Mitchell and Paul Douglas, are by no means alien to this project.

In summary, we can rejoice that in the United States there has been a great revival of that interest begun in the Victorian period in the scientific study of the growth of children, both as physical and as thinking creatures. Important scientific studies have recently been made under the auspices of

the National Research Council, others are in progress, and a move to coördinate this field of work is well under way.

There has been progress in the study of the functioning of social institutions in behalf of children. In this, the United States Children's Bureau has been the pioneer and is still a leading institution. The United States Census Bureau, through data in tracts and on families, is now making a contribution indispensable to the better understanding of the social scene in which children are growing up. Promising beginnings in the pooling of information on the size of the child caring task are being made in many cities, states, and even nations. The nature of delinquency

and the methods of its treatment have received much attention, as have questions of public health. The White House Conference on Child Health and Protection affords an unparalleled opportunity for synthesis and interpretation.

But a very great deal remains to be done—remains, that is, if we cherish the ideal of actually accounting for the children as we account for material wealth. Perhaps sometime we shall be able actually to know what is happening to the minds and the bodies of all the children of the nation. When we reach that state, we shall be using our resources of brains and money for what is perhaps the purpose most worthy of them.

A Training Program for Child Welfare Workers

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AFOLK story from colonial days was still current in the part of Vermont where I lived as a boy. It ran something like this. A white settler in a little clearing in the woods, one morning in early spring, was busy taking up pieces of wood and scraps of iron one after the other, looking at them and placing them side by side and then throwing them down, only to repeat the process. A friendly Indian who was passing stopped to look at the settler for a few minutes and then asked, "What are you doing?" "Making a plough," said the settler. "Can you see the plough?" asked the Indian. "No," replied the settler. "Then you can't make it," was the Indian's comment.

In these days, when the plumber goes back to his shop to get his tools after he has reached the house and looked at some leaking pipe that he has been called in to repair, the householder's anger springs from his opinion that the plumber ought to have seen the job plainly enough before he left his shop to bring the right tools with him.

WORK MUST BE VISUALIZED

The suggestion of these two tales for our present purpose is plain. If we are to have a training program for child welfare workers that is worth anything, it must be planned and carried out by those who can see from the beginning what kinds of work the workers will have to do. Our first question is, can *we* see child welfare workers at their work from morning to night, day after day? Can we put ourselves in their places and face with

sympathy, intelligence, and foresight the questions they have to face? If we can, we can also help the inexperienced student to foresee, and thus to prepare to meet, these issues. If we cannot ourselves see the actual work which child welfare workers have to do, we shall be, not like "the prudent man" who "foreseeth the evil," but rather like "the fool" who "passeth on and is punished"—or, in this case, who lets the student pass on and get himself or the children under his care or both punished.

What, then, do child welfare workers have to do? First, it should be clear that "child welfare worker," in the minds of the editors of this volume of *The Annals*, has a limited, professional meaning. Taken literally, anybody who works for the welfare of the child is a child welfare worker. In this literal sense, we should have to include within the group of child welfare workers, mothers, fathers, teachers, doctors, nurses, ministers, domestic servants, and industrial workers engaged in producing goods for the use of children. Most children, even in these days of alarm over the future of the family, still live with their parents. Whatever welfare they get comes to them under the direction of their parents and is paid for by them directly, except that which is paid for by the collection and the expenditure of taxes to which all citizens contribute.

PROBLEMS FACED BY WORKERS

With some possible exceptions, the child welfare worker whom the editors have in mind does not meet many of

the children in these independent homes. The children whom he meets are, as a rule, in homes that are under such strain that, to prevent a breakdown, some help must come from the outside; or else, because the breakdown has already come, the children have to be cared for in some temporary or permanent substitute for their own homes.

Can we see the job of the child welfare worker in this restricted field?

Dr. Southard¹ has given us a dynamic picture of human life constantly under bombardment by evil forces: (*morbi*) diseases, (*errores*) incompetences, (*vitia*) wrongdoing, (*litigia*) legal entanglements, and (*pecuniæ*) poverty. The child welfare worker is called to the help of children of families that thus far—or at just this time—are fighting a losing battle against these destructive forces.

All child welfare agencies, with the possible exception of those dealing with the foundling child and the orphan with no sibling, are alike in one respect. The problem of care in each is not that of a child in kinship isolation, but involves also the question of the child's relationship to a complete family group or to some members of that group—parents, parent, parents and siblings, parent and siblings, or siblings only. In the background of many children's lives, there are also the potentialities of harm and help from the clustering circle of grandparents, uncles, aunts, and cousins.

What bearing upon the work of the child welfare worker do the two facts thus far emphasized have—namely, that the child is usually a member of a home that is breaking or broken; and that the problem, as a rule, still has biological, economic, legal, intellectual,

and emotional assets and liabilities because of his membership in those families? The primary bearing would seem to be that the worker's job brings him face to face every day with the most difficult areas of human life in which to achieve results—namely, those areas lying between the self-reliant, successful, independent home level on the one hand and the level of the completely isolated and solitary child on the other.

The time has passed when the conscientious and competent case worker can habitually shut his eyes to the real difficulties of his complex job by calmly seizing upon the body of the child who is found in a breaking or broken home, carrying him off to some new family or institution, and trying to root him there, in smug disregard both of the emotional incompleteness of this rooting and of the welfare of the family group from which the child was taken. The worker of the future must not only say, with the Latin poet, in all honesty, "I am a man and hold alien to myself nothing that is essential to the nature of man," but he must also realize that his job demands of him that he be able to recognize, believe in, and develop human potentialities for growth in persons that do not themselves know the possibilities for growth either in themselves or in their children.

The child welfare worker, like the Prophet of Nazareth, is not called to save the righteous. He is called to help to save those who, whether or not they have themselves sinned, are enmeshed in the results of all the sins of the Decalogue. Permanent help can come to many of these children only by such an investment of understanding, sympathy, intelligence, and skill that the quality of the service may well be described in those other words of the Judean Prophet when asked by His followers why they could not cast

¹ Southard, E. E., and Jarrett, M. C., *The Kingdom of Evils*, New York: The Macmillan Co., 1922.

out the evil spirit from the son of a certain man, "This kind goeth not out save by prayer and fasting."

WORKERS' QUALIFICATIONS

We now approach the concrete problem of a training program for child welfare workers with the foregoing philosophy and perspective, the range and the implications of the actual job with children in mind. How can we bring some details of the program more clearly into the foreground? There can be only one valid answer. Successful workers in various agencies must be asked to tell us what qualities in themselves and in their fellow workers are essential to success. We shall have space here for only the outlines of such testimony.

The American Association of Social Workers is at work in a systematic and effective way to get just such information. From the first volume, we abridge the following requirements and qualifications of the social worker who, as family visitor, is doing case work:²

Unfailing patience and sympathy, a grain of humor; . . . steady persistence; . . . insight into the more common situations and relationship difficulties that people encounter, causes and contributing factors, and how they are met and overcome; . . . faith and a real interest in people and in each person's individual problems, and enjoyment in close association and contact with people. This includes a sincere belief in the possibilities of personality development—ability to see the other fellow's point of view—feel as he feels; . . . balance and emotional stability; . . . the ability to withstand pressure without being hurried; . . . leadership; . . . ability to put across well-considered plans and get results; . . . organization sense; . . . scientific attitude

and habits of study; . . . ability to get away from the job and to keep a perspective on one's work.

The family case worker is also said to need many forms of special knowledge, such as:

History and objectives of family case work; . . . technique of social case work procedure for the individual and the family group; . . . general principles of human behavior and motives; . . . general principles of mental hygiene and child care and training, symptoms of behavioristic problems, mental disorders and discord, general understanding of various tests, such as mental and psychometric; . . . symptoms and conditions of the more common diseases; . . . Principal social laws of the State specifically bearing on family work, as, for example, those concerning property rights, commitment, guardianship, juvenile court laws, school attendance, poor relief laws, housing, marriage, domestic relations; . . . workmen's compensation, legal procedure, including obtaining citizenship papers; . . . elements of vocational selection; . . . elementary economics; labor problems; . . . family budget planning;

community resources—"economic, industrial, health, educational, recreational"; "concept of ethics," also a great number of special skills—

Graduation from a college of recognized standing is now generally accepted as the minimum standard, but equivalents are accepted where the person obviously has had training in analysis and habits of study and has acquired the general knowledge, cultural background and scientific attitude that a formal college education generally gives.

REQUIREMENTS IN SPECIAL FIELDS

For the medical social worker we are told—"It is generally agreed that a medical social worker should have the qualities that are considered essential for a good family case worker." To these are added requirements for special types of knowledge, abilities, education, skills, and experience that the

² Odencrantz, Louise C., *The Social Worker in Family, Medical, and Psychiatric Social Work*. The first volume of Job Analysis Series of the American Association of Social Workers. New York: Harper & Brothers, 1929.

medical aspects of the job make necessary.³

For the psychiatric social worker, we also read that the psychiatric social worker should, in general, have the same qualities as the family case worker, plus such special knowledge, abilities, education, skills, and experience as the special problems within the whole area of human behavior, including pathological behavior, demand.⁴

Coming a little closer to jobs that are ordinarily thought of as more specifically belonging to the child welfare worker, we are permitted to refer to a study as yet unpublished.⁵ Here, again, as for the medical social worker, we are told that, for the child-placing agency, "It is commonly agreed that the executive should meet fundamentally the qualifications necessary for the visitor [in a family welfare agency], with additional qualifications." The additional qualifications enumerated relate chiefly to leadership, vision, efficiency in supervision of other workers, in business matters, and in contacts with the public.

The qualifications of the other child welfare workers in the field—those in charge of intake or acceptance of children for care, foster home finders, and those engaged in child placement and supervision, are thus stated: "The qualifications desired for workers in a child-placing agency are similar to those sought for family social workers." In addition, various executives point out the need for special skills and experience required by the fact that these workers must deal intimately, not only

with the child and the members of his own family group, but also with the foster mother and other members of her family. One statement reads thus:

Ability to place herself in the position of the child, his parent, his foster mother: Is she conscious of the child as an individual? Is she able to understand the causes contributing to his problem, and can she lead the family and the foster family to understand them? Has she the confidence of the family and the foster family? Can she work with them in planning and in facing situations? Is she able to identify with a variety of experiences of both children and adults, at the same time leaving her clients free to solve their own problems?

There you have it. All the child welfare worker in a child-placing agency has to do is to face with understanding and constructive efficiency the whole range of problems of adults and children in independent, breaking and broken homes—to say nothing about homes that are as yet only in the dream or preliminary planning stage.

INSTITUTIONAL DEMANDS

Of the fitness of an executive of a child protective society, the statement is, "Qualifications are similar to those for the executive of a child-placing society."

Of the qualifications of a child welfare worker in a protective agency, the executives say further:

Sufficient experience of life to have developed a capacity for understanding the problems of others; . . . maturity of view, judgment, the ability to make decisions, common sense, human sympathy, but without "gullibility," and accompanied by enough backbone to insure firmness as well as kindness, tact, discretion, sterling honesty, a philosophy of life so balanced as to avoid depression, love of children and a keen sense of their rights, courage and stamina to withstand contention and to face the opposition of parents and attorneys.

³ Odencrantz, Louise C., *The Social Worker in Family, Medical, and Psychiatric Social Work*, pp. 211-219.

⁴ *Ibid.*, pp. 334-344.

⁵ Williamson, Margaretta, *The Social Worker Engaged in the Care and Protection of Children*. Third volume of Job Analysis Series of American Association of Social Workers.

A summary of the duties of a superintendent of an institution caring for children affords glimpses, not only of the work of the superintendent, but also of other workers sharing with him the total responsibility for the welfare of children to whom the institution offers a substitute for their own homes. This is the summary:

It is the superintendent's duty to organize his staff to the best advantage for carrying the program of the institution and to designate the responsibilities of departments and of individual staff workers. The staff may include any of the following—as well as other types of workers: an associate superintendent, supervisors, house-mothers (or fathers), an admissions worker, an after care worker, a case-worker, a child-placing staff, a chaplain, a dietitian, librarian, nurse, a medical, psychiatric and recreation staff, full or part time, a clothing worker, one or more seamstresses, a financial secretary, and a business, domestic, and maintenance staff.

It is his further important task, in collaboration with the board and the staff, to organize a procedure for *meeting the needs of the child, from the moment of application for his care to the time when it is felt that the institution can be of no further service to him.*⁶ He is concerned, therefore, to formulate policies and arrive at methods with respect to *admission to the institution, and care and development of the child, his discharge from the institution and his after care.*

As to the job of the juvenile probation officer and the visiting teacher,⁷ these questions are sufficiently suggestive for our present purpose:

In her study of the child in difficulty, the visiting teacher asks of the school, "How can the school process best fit the needs of this child?"

⁶ Italics those of the present writer. It can readily be seen that all this involves an awareness and utilization for the good of the child and his family of all their past, present, and possible assets and interrelations.

⁷ Culbert, Jane F., *The Visiting Teacher at Work*, New York: The Commonwealth Fund, Division of Publication.

She asks of the home, "What in the family or home environment is preventing this child from realizing his potential powers and expressing his best self in his civic relationships?"

She asks of the community, "What lacks or obstacles for which the community is responsible are preventing this child from receiving his just share of opportunity for physical, mental, and spiritual growth?"

Of the child himself she asks, "What are his wishes, interests, and desires? What his special aptitude, talents, and gifts? What his hopes and fears, his ambitions and his dislikes? In what does he fail and in what succeed?"

On the basis of this knowledge, she seeks, as social worker, to reconstruct the fabric of the child's whole experience, so that she may be able to coördinate the favorable factors and to bring about a change in the unfavorable ones—thus to secure for the child in school (also in the juvenile court) the largest possible opportunity for his development and for normal, healthy, happy progress through the various stages of childhood.

ADEQUATE TRAINING PROGRAM

How easy! All that a training program for child welfare workers needs to provide is just enough to guarantee that every child welfare worker who has had this training shall be able to deal successfully with every one of his child clients as a "total personality in a total situation."⁸ That's all there is to it!

In terms of social work as a profession, what is the meaning of all that has thus far been said? Just this—that all the different child welfare jobs are primarily case work jobs in the generic sense⁹ but each operates in a specific field¹⁰ which necessitates adapta-

⁸ Adler, Herman M., *Ninth Annual Report of the Criminologist*, p. 21, Springfield, Ill.: Illinois State Journal Company, 1927.

⁹ *Social Case Work, Generic and Specific*, No. 2, pp. 13-33, Studies in the Practice of Social Work, New York: American Association of Social Workers, 1929.

¹⁰ *Ibid.*, pp. 35-40.

tions and supplementations determined by the peculiar and distinctive requirements of that field. An adequate training program for each specific field, therefore, requires primarily a training for generic social case work and, secondarily, such additional training as the special requirements of that field make necessary.

Among these requirements are those demanded by the different auspices under which certain forms of child welfare work must be organized and directed. For example, visiting teaching must be done under the auspices of a system of schools, probation work in a juvenile court, admission and parole work in connection with an institution.

In all such cases, it should be remembered that the generic aspects of social case work bulk far more largely than the specific applications and re-

quire far the larger part of the time in a training program. On the other hand, I believe that, so far as practicable, training schools for social work should provide, chiefly in the form of supplementary courses and field work, experiences under skillful supervision—opportunities for students to gain insight and facility in the adaptation of generic social case work to all the important specific varieties of institution and agency dealing with dependent, neglected, delinquent, and specially handicapped children.

A training program for child welfare workers, whether given by "apprenticeship" or "school," should not fall below "Some Minimum Standards for Training at the Present Time," as outlined in the study just cited.¹¹

¹¹ *Social Case Work, Generic and Specific*, No. 2, pp. 86-87.

The National Agency and Child Welfare Standards

By C. C. CARSTENS, PH.D.

Director, Child Welfare League of America, New York City

THE question whether the United States is singular or plural has been asked many times. Whatever may be the answer in political science, in education or child welfare it is certainly plural. For example, an intelligent visitor to our shores from Germany finds it hard to understand that our laws and our procedures in domestic relations vary greatly among the forty-eight states and that only on the basis of comity between states do we avoid many of the most serious legal conflicts in problems involving divorce, legal residence, settlement, the care of dependents and delinquents, and the interstate rendition of fugitives from justice.

DIVERSITIES OF OPERATION

The apparent opportunity for great diversity in child welfare is borne out by the facts of the situation. In some states every destitute, dependent child must be brought before a court if he is to receive care at public expense, while in other states this procedure is held to be unnecessary and is condemned as unsocial. In some states the care of all dependent and neglected children falls upon private agencies, while in other states the tendency is to lay the full care on the state and its subordinate units, with still other states occupying the middle ground. These illustrations of fundamental diversity could be greatly multiplied.

All of the states except Arkansas, Mississippi, and Nevada now have departments under various titles, charged with the responsibilities of administering or supervising their work

for various groups of social debtors, or undertaking both forms of service. These departments differ greatly, whether they are limited to the field of child welfare, as in Alabama, Oregon, or West Virginia, or whether they perform a broader service of which the work of a children's bureau is only a part, as in California, Massachusetts, and Pennsylvania.

These differences are not essentially what they are because of differences in population, needs, or financial resources. They are due mainly to the fact that these services have been developed independent of experience, pattern, or need. The present status of the state departments is due to many influences, good and bad, but these departments share with individual private agencies the need for the application of approved standards in their specific fields of work. While some are successfully helping to develop children's agencies and institutions in their respective states, other state departments are much like the blind leading the halt, and are themselves in need of education and standardization.

The establishment of the Children's Bureau in the United States Department of Labor in 1912 has contributed much toward the standardization of public and private child welfare services among states as well as within states. By the provisions of the Constitution of the United States, however, its services are limited principally to the investigation of child welfare conditions, the publication of results of certain methods, and the education of public opinion regarding accepted

standards. These constitutional limitations are also sometimes unduly emphasized, so that the service which the Federal Bureau could well render, based upon the broad experience of its staff, is made less effective because of an undue regard of some states for their own prerogatives.

PRIVATE NATIONAL AGENCIES

In view of all these facts, there is opportunity for an educational and standardizing service on the part of a private agency working with organizations, bringing no implication of control but interpreting and assisting an agency to do its own work more effectively. To such an organization, aiming to bring the experience of the nation as a whole to bear upon the work of each, both public and private organizations in the field of child welfare are increasingly ready to turn for help, especially when the local agencies are conscious of their need and believe there is help available. The great diversity of children's agencies in all our cities and states makes such a national agency particularly exigent.

Private national agencies are of various kinds when examined from the standpoint of organization but are principally of three kinds: those like the Child Welfare League of America, having a constituent membership which, besides giving it financial support, controls its policies through the election of directors at an annual meeting; those like the Boy Scouts, whose central body charters the various local units and controls them in all essentials; and those that have no local units, like the National Child Welfare Association, which undertakes a general educational service in certain parts of the field.

SERVICES RENDERED

What services then can a private national agency contribute to child

welfare progress? A local agency turns perhaps most frequently to its national organization when it wants to undertake some new work in which its board, staff, or both, have no experience. A national agency's staff, coming into contact with the experience of various methods in different local agencies, has the opportunity to get at the fundamentals and to appraise the results, by means of which it may keep the new experimenter from making the same mistakes that have been made elsewhere and may thus make the new experiment more effective.

In case of crisis, also, the national agency is consulted rather frequently. Hard times or a reduced budget sometimes requires retrenchment, and the question arises, what service now performed is least valuable to the community? Occasionally, difficulties threatening serious disruption arise in the personnel. Often, a staff member of the national agency, in touch with all parts of the work of the organization in question, can make a more correct appraisal of the difficulty because of the detachment with which he can approach the problem. He is more likely to cut nonessentials and personal controversies away from the main issues involved.

Or, doubts sometimes arise in the minds of staff members or of boards of directors as to the value of a certain method of procedure, as, for example, the use of the boarding home for the dependent child. The national agency is sought for confirmation or criticism of existing methods. Its impersonal relationship to the community and the agency in question, and its comparison of results of the same procedure in other places, make its evaluation more reliable and convincing.

There are also problems important to individual organizations but common to different cities and states, that

must be studied together, and for which no single city or state can provide the personnel or the resources. Questions relating to the costs of service, the standard rates of salaries, the gathering and the use of comparable statistics, the hours of work and the lengths of vacations, are best answered when a general consensus can be reached regarding them on the basis of a wide inquiry. The national agency can best get these answers.

One method of setting standards employed by some national child welfare organizations is to admit to constituent membership, and therefore to a share in the control of the organized field of work, only those agencies which have attained to measurably good standards of work. The incentive to be admitted to "the white list," as some call it, in itself has an appreciable effect upon staffs, boards of directors, and community chests, and is measured in better personnel, larger budgets, and a higher morale. Of the 1558 institutions for dependent children and 331 child placing agencies, less than 150 have been admitted to membership in the Child Welfare League of America. The salutary effect of such a national group organization, though still rather small in membership, is quite out of proportion to its size.

SURVEYS AND DEMONSTRATIONS

During the last few years the national agencies have been required in increasing measure to make surveys and studies often quite outside of their constituent membership. These studies are not pure research, in that they do not aim to discover new truth. They aim rather to evaluate the work that is being done by an organization or a group of organizations of a given city, county, or state, for the correction of error and particularly for the purpose

of reorganizing the work on approved lines and in accordance with generally accepted principles when such reorganization is needed.

A survey of the child welfare work of a large city or a wider area implies more than such evaluation. Not only is a study of the equipment and the work of the individual organizations necessary, but, as a rule, certain problems of the area with which a number of organizations may be concerned require analysis and community-wide appraisal. Such problems include illegitimacy, institutional care of dependent and neglected children, and the work of the day nurseries.

No such study would be complete without the drafting of a plan into which each of the organizations will fit in order that its work may become a part of the whole, without duplication or gaps if possible, each agency performing the part for which it is best equipped by tradition, personnel, and size of budget. A national agency having continuous contact with standard agencies in the field of child welfare is best equipped to render this service, rather than a survey agency mainly skilled in gathering facts and appraising situations against generally accepted patterns.

A national agency is also advantageously situated to undertake demonstrations of the value of new forms of service. For example, a demonstration has been going on for about two years under the direction of a national agency, of the value of social case work in the field of institutional care of children, and specifically in connection with an orphan asylum that is a representative one in its field. The national agency was able to interest a foundation to finance the work and to gather a capable staff for it because of the experience and prestige its member would acquire by working under the

national organization's continuous and close direction. It has gained the full coöperation of the institution's board for a progressive program and has already shown some unusual results with individual children. If the results prove in the long run to be valuable and possible without a forbidding cost, such a demonstration will be likely to lead other institutions to adopt similar methods.

OTHER FUNCTIONS OF NATIONAL AGENCIES

The selection of suitable personnel for the executive direction as well as for the minor positions of a children's agency is a function involving the greatest responsibility and difficulty. With its understanding of the agency's and the community's peculiar needs and prejudices, a national agency may materially assist in such selections by opening to the local work a wider field for choice. Also, it frequently helps quite as much by keeping out the wrong persons as by suggesting those best fitted.

One of the most common services rendered is the issuance of a publication which shall interpret to a wide constituency news regarding the work of progressive agencies. Such a publication will present the scientific progress, if any, in its field; the important issues for interpretation and solution; book news; and lists of opportunities for further training. This field of publicity and publication is at best but imperfectly developed in child welfare.

The embarrassing experience which local organizations have in carrying out the purposes of aging charters and the terms of charitable bequests or trusts also provides the opportunity for a valuable service to be rendered by a national agency. It is in position to advise donors with generous hearts but

little understanding of local needs to dedicate their resources to a more valuable purpose than at first proposed.

Besides such preventive work in dealing with endowments, a promising field of service exists in making more useful the many obsolescent enterprises in child welfare. This may be done by interpreting to boards of trustees how their responsibilities, often delegated to most inefficient matrons and superintendents, may be more effectively and more satisfactorily carried out.

VALUE OF EXPERIENCE RECOGNIZED

There is still, and will continue to be, a large measure of sentiment connected with social work for children. It is reasonable to expect that there will always be those who are ready to "plow ahead" in new fields and who have the conviction that social work requires "heart" and precious little skill. That number is fortunately not as large as it used to be. Valuable experience in any field is beginning to be deemed worth going after and most people think it worth paying for. Occasionally, even a successful business man may still be found who will pay his thousands for help based on experience in reorganizing his business from time to time for obtaining better returns, but who does not feel that as a director of a children's organization he can spend a dollar contributed to it, for the purpose of learning from the outside how to make its other dollars bring a larger return in service. But the development of the community chest as a businesslike method of financing has in large measure converted this type of director.

That the national agencies have been found useful is evidenced by their number. A careful study of the field shows that there are upwards of seventy-five national agencies making

the field of child welfare their whole program or at least an important part of it. Since there is no such number of different phases in child welfare, there must be duplications and it is reasonable to hope that some of these agencies may to advantage be consolidated. But by furnishing constructive criti-

cism, helpful service in emergency, assistance in selection and training of staff, and at all times a practical interpretation to the local boards and to the community of the needs of the children whom we are pledged to serve, the national agency may play a useful part in the community's plan.

A

AIRPORT PROBLEMS OF AMERICAN CITIES

By

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AUSTIN F. MACDONALD





FAIRCHILD AERIAL SURVEYS INC. N.Y.C.

Courtesy of Fairchild Aerial Surveys, Inc.

A VIEW OF THE CHICAGO MUNICIPAL AIRPORT

CHAPTER I

INTRODUCTION

THE airplane has added an important chapter to the slowly evolving story of man's conquest over space. It has given a new element of flexibility to human journeys. Within the present century it has destroyed the age-old concept of travel as a two-dimensional affair; man has been freed from the necessity of crawling always upon the surface of the earth.

Less than two decades ago, when the airplane was just emerging from the experimental stage, many persons failed to realize its inherent limitations. They thought of aviation solely as the art of traveling by air, forgetting that aviation is completely dependent upon facilities which must be rooted firmly to the ground. Today, however, it is more generally understood that airplanes are no better than the airports which serve them. Nearly every one realizes that properly prepared areas for landing and taking off are quite as essential as properly designed planes.

THE HARBORS OF AIR COMMERCE

Airports are the harbors of air transportation. To operate planes without reasonably satisfactory airport facilities would be quite as difficult as to navigate modern ocean liners without harbors and docks. The operation of railroad trains without passenger stations and freight yards would be a simple task by comparison. For a train can be stopped, if necessary, anywhere along its line of travel; but an airplane must land only on carefully prepared areas or else face almost certain disaster.

Airport problems are of such vital importance, therefore, that they merit and are receiving serious consideration. Some of the best engineering minds of

Europe and America have already turned their attention to the design and the construction of airport facilities. A considerable quantity of current literature exists, explaining just how airports should be planned and how they should be built. The experts differ radically among themselves as to details, and some of them are not agreed even on fundamentals; but at least they have taken the first steps towards an understanding of airport needs.

Surprisingly little has been written, however, concerning the manner in which American cities are actually solving their airport problems. Most of the technical periodicals devote a minimum of space to the subject.¹ The Aeronautics Branch of the United States Department of Commerce has collected a great many facts concerning municipal airports, but has made no attempt to blend them into a complete picture. It is hoped, therefore, that this study of existing conditions will prove of definite value to municipal officials, as well as to lay readers; for when the authorities of a city are faced with the necessity of establishing an airport, in order to gain for their community its portion of the rapidly growing commerce of the air, they need to know what other cities, similarly situated and confronted with similar problems, have already done.

CITIES REALIZE THE NEED FOR AIRPORTS

Within the last five years the cities of the United States have become acutely conscious of the need for suit-

¹ There are, however, at least two periodicals, *Airports* and *Airport Construction and Management*, devoted entirely to airport problems.

able air terminal facilities. Chambers of commerce, rotary clubs, and civic leagues have lost no opportunity to stress the need for more and better airports. City officials have fallen into line without much persuasion. Large metropolitan centers have not dared to hold back, lest their slowness in providing facilities for air travel result in loss of trade. Smaller cities, too, have hastened to construct airports, hoping that their promptness would give them a marked advantage over rival communities. To borrow a phrase from the jargon of aviation, municipal America has become decidedly air minded.

Of course, it is scarcely necessary to add that most of the airports thus far established fall considerably short of any reasonable standard of adequacy. Many of them are only one or two stages removed from cow pastures. The large majority of them do not have suitable night lighting equipment. Very few are properly drained. Facilities for servicing and storing planes leave much to be desired. But at least a start has been made; for any city which is sufficiently interested in aviation to set aside a tract of land for airport purposes, even though it does nothing more than cut the grass and erect a cheap fence, will probably be sufficiently interested to make its port conform to reasonable minimum standards, once it realizes that a modern airport requires more than a lawn mower and a few wooden posts.

THE AIRPORT MOVEMENT IS GROWING

There are now approximately sixteen hundred airports in the United States.² Of this total, however, nearly three hundred are intermediate emergency landing fields established by the

² This figure is supplied by the U. S. Dept. of Commerce, as of April 15, 1930.

Department of Commerce, and three hundred others have been constructed for the use of the armed forces of the United States. There are, therefore, about one thousand airports serving American cities. The number is increasing at the rate of ten or twelve a month. Twelve or thirteen hundred additional airports are in course of construction, and no one can safely say how many future air harbors are still in the discussion stage.

The total investment in airports runs into the hundreds of millions of dollars. During the single year 1929 at least fifty millions were spent for new construction and permanent improvements.³ A modern air terminal, designed to meet the needs of a great metropolis, usually costs several million dollars. Three millions have already been spent on the Grand Central Air Terminal at Los Angeles, a private venture, and the project is not yet completed. Floyd Bennett Field, New York City's new municipal airport, has cost two and one-half million dollars to date, with additional appropriations already needed.

AIRPORTS CREATE PROBLEMS

The construction of an airport is such an expensive affair, even for a community of moderate size, that it cannot be lightly undertaken. Once a city decides that it must have airport facilities, it finds itself immediately under the necessity of answering a number of pressing questions. Shall the field be purchased with municipal funds, and operated by municipal officials? Or shall it be leased to a private operating company, the city merely retaining title to the property? There is, of course, still a third alternative: to rely entirely on private initiative. Such

³ Gale, Charles H., "Last Year's Airport Construction Projects." *Aviation*, Feb. 15, 1930.

large metropolitan centers as Pittsburgh and Washington, the National Capital, are served solely by privately owned and operated commercial airports.

Even if a city decides to put its trust in private enterprise, however, it cannot afford to sit idly by and wait for some ambitious group to take the necessary first steps. It must find ways to attract private capital. Still more difficult, it must try to secure some assurance that the airport constructed primarily for private gain will be operated to meet public convenience and necessity.

In case the city's decision is in favor of municipal ownership and operation, as it is very likely to be, the vital questions which must be answered are numerous. How much will the airport cost? What items are likely to bulk large in the total? How can material savings be effected without reducing the port's value? What is the best method of financing the project? Should a bond issue be floated, or should construction costs be met out of taxes? Is there any likelihood that the airport can be made to support itself, or even show a small net profit, within a reasonable period after it has been put into use? What are likely to be the chief sources of operating revenue, and the more important items of operating expense?

Not all the questions deal with finances, however. Decisions must be made as to the kind and the amount of equipment which must be installed. How many hangars should be erected? How large should they be, and of what materials should they be made? What kind of fire-fighting apparatus should be provided? What night lighting is required? What repair facilities are essential? The list might be extended almost indefinitely.

SITE SELECTION

One of the first and most important tasks, after the decision to construct an airport has been made, is the selection of a suitable site. Many persons who have given the matter no serious thought casually assume that any large, fairly level area of cleared land can readily be converted into an airport. As a matter of fact, no tract is entitled to serious consideration as an airport site unless it possesses a considerable number of more or less essential characteristics.

The site should be as free as possible from fog and ground mist; for blind flying through fog to a safe landing has not yet become a routine matter, though its feasibility has been successfully demonstrated.⁴ The soil ought to be capable of supporting reasonably heavy loads under all weather conditions, with little or no artificial drainage if possible. Should an extensive artificial drainage system seem necessary for best results, the cost of the system ought to be ascertained. The shape of the site may be quite as important as the size. The character and the height of the neighboring buildings may be such as to destroy the value of an otherwise adequate piece of land. Electric power and an abundant water supply are essential; if they are not already available at the suggested location, the cost of procuring them must be taken into account. The distance from the center of the city should not be great. And it need scarcely be added that the land itself should be obtainable at a reasonable price.

Of course, the above list of desirable characteristics makes no pretense at completeness; it is not even comprehensive. It merely suggests a few of the factors which must be taken into consideration if airport sites are to be

⁴ See p. 202.

something more than a product of guesswork and local politics.

To what extent American municipal officials actually try to understand the fundamental principles underlying site selection, and to apply those principles when choosing among various tracts of land alleged to be suitable for airport purposes, is a question not readily answered. In more than one instance the determining factor has been the word of the local political boss, whose henchmen happened to own practically worthless land which they were anxious to sell to the city at a high figure. In many other cases honest intentions have been virtually nullified by gross ignorance.

The large majority of cities, however,

the caliber of municipal engineers and the somewhat doubtful generosity of city councils.

DETROIT'S EXPERIENCE

A few cities, including Detroit, Pontiac, and Sacramento, have tried to reduce site selection to a more or less exact science by means of carefully weighted tables. In Detroit, for example, when a large number of tracts were under consideration, nine factors were selected as meriting attention, and to each factor an arbitrary number of points was assigned on the basis of supposed importance. Here is the list, as prepared by the city engineer of Detroit and the engineer of the Wayne County Road Commission:

RATINGS FOR VARIOUS WAYNE COUNTY (DETROIT) AIRPORT SITES ⁵

Factors	Detailed Items	Points
Center of population	Manufacturing, Retail, Clubs, Taxi, Industrial	170
Downtown center	Hotel, Post Office, Financial, Depots, Water Terminals	290
Airways	Transcontinental Lines, State Lines	180
Transportation	Bus Lines, Paved Roads, Electric Lines, Rail- roads	120
Character of Neighborhood	Building Restrictions, Possible Development, Factory Sites	40
Fog	Weather Reports, High and Low Areas, Streams	40
Smoke	Manufacturing Districts, Prevailing Winds	40
Area of Site	Maximum, 1 mile square	100
	Minimum, ½ mile square	20
Soil and Ground Condition	Drainage, Subsoil, Sod	
Total		1000

seem to have regarded site selection as a matter for the determination of trained engineers, and to have been governed in large measure, quite properly, by the advice of their engineering or public works departments. For the most part, therefore, their airports are probably as good as could reasonably be expected, considering

The comparative merit of each proposed site having been determined in accordance with this table, it then became necessary to consider the highly important factor of cost. The cost of a tract was properly regarded as not only the purchase price of the land, but also the outlay required for necessary grading, clearing, and grubbing, and for the installation of an adequate drainage system. The total cost of each site, thus defined, was then di-

⁵ *Proceedings of the Thirty-Fourth Annual Convention of the American Society for Municipal Improvements*, 1928, p. 344.

vided by its total number of points scored, and the result was a so-called "index number," which was supposed to reflect the merit of the site in terms of dollars and cents.

Of course, this entire system of ratings was designed solely to aid the Board of Supervisors of Wayne County to make an intelligent decision, and not to reduce the whole problem of site selection to a purely mechanical affair. As a matter of fact, the Board of Supervisors finally chose the site which received the best rating, but a number of members of the Board favored the site which stood second, and the vote was close.

HOW IT WAS DONE IN SACRAMENTO

It is interesting to note that the factors considered by Sacramento in choosing its airport are very similar to those used by Detroit, though there are some additions, and many of the weights assigned are quite different. The Sacramento table is given below:

chase price and the cost of development, was divided by the desirability rating to obtain an index number or rating unit. The airport chosen by Sacramento in this manner was the city's second. The first had been selected largely by guesswork, and had soon proved totally unsuitable because of numerous hazards and improper drainage. So, when the need for a different site became obvious, the municipal officials decided to rely on something more than casual opinion.

It is by no means certain, however, that best results can be obtained by making a list of desirable factors and then giving them arbitrary weights. A table so prepared is at best a starting point—a guide for the mature deliberations of experienced men. At worst, it might become a dangerous tool in the hands of bungling amateurs, used to justify their inept decisions.

Take, as an example, an airport site which fulfilled perfectly every requirement except that of size. Its rating

SACRAMENTO AIRPORT SITE RATINGS ⁶

Factors	Points
Freedom from fog (determined by observation).....	15
Freedom from bad air currents (determined by actual flight tests).....	10
Area of site (an area of 250 acres was decided upon as the required size, and sites smaller and larger were given reduced ratings in proportion).....	10
Shape of site.....	5
Approaches and surroundings.....	8
Favorable prevailing winds.....	5
Proposed neighborhood development.....	4
Possibility of expansion of area.....	4
Accessibility to air travel (sites on the transcontinental airway were given full value, and others in proportion to distance from the airway).....	10
Distance from the center of population.....	10
Distance from the railroad.....	4
Distance from the post office.....	10
Distance from aircraft factory sites.....	5
Total.....	100

As in the case of Detroit, the total cost of each site, including the pur-

⁶ *Aëro Digest*, p. 132, Dec., 1929.

would then be very high—perhaps considerably higher than that of any rival tract of land. Yet its area might be

so small as to make it utterly unfitted to the needs of large transport planes. Or, if it were large, centrally located, well drained, cheap, and free from unfavorable air currents, its consequent high rating would be no indication of the fact that fogs were so dense and so frequent as to prevent its satisfactory use for airport purposes. Of course, this is only another way of saying that weighted tables are an aid to experienced judgment, but not a substitute for it.

SIZE VERSUS LOCATION

Within the aviation industry there is considerable difference of opinion as to the relative importance of size and central location. The controversy is important, because in almost every instance one factor or the other must be sacrificed, and it then becomes necessary to make a definite decision. Occasionally a city may find a tract of land of adequate size within a short distance of its downtown district, as did Berlin in 1918 when it took over a former drill ground, gradually developing it into one of the world's foremost flying fields. But such cases are remarkable because of their rarity. The community which insists upon convenient location must usually be satisfied with a relatively small tract; while the municipality which puts size first must commonly go to its very borders, or even beyond, in order to find a sufficient quantity of undeveloped land.

Those who take the viewpoint that proximity to the central section of the city is essential base their arguments on the obvious fact that time is a vital factor in aviation—more so than in any other form of transportation. The one inducement which the aviation industry can offer to the public in exchange for higher rates and greater danger is the saving of minutes or

hours. And just to the extent that minutes or even hours are wasted in traveling by bus or trolley between the hotel or the business district and the airport, the advantage of air transportation is lost. As Colonel Lindbergh said in 1929:

If the port is an hour's ride from the city, it takes away the advantage of flying time. On a trip from New York or Philadelphia to Washington, the time required going to and from distant landing fields would add so much to the flying time as to leave little advantage over railroad transportation. . . . So that conditions being somewhat nearly equal . . . I think distance from the city would be of primary importance.⁷

There is another side to the story, however. Airports must be large if they are to be of maximum usefulness. Not only must sufficient space be provided for runways and taxiways, but at every large air terminal, land should be set aside for numerous hangars, an administration building, and even factories. One careful student of the problem recently ventured the assertion that

when all the flying activities of a fairly large community are to be concentrated on one field, the *minimum* area of that field should be *at least* five hundred acres. Where several sites can be obtained, the major air terminal and industrial field should have from five hundred to seven hundred acres. . . . In small communities, a single field with an area of from two hundred to four hundred acres may suffice.⁸

This estimate is very conservative. Many writers declare that one thousand or even fifteen hundred acres are desirable.⁹

⁷ Quoted in *Time*, May 13, 1929.

⁸ Boone, Andrew R., "Location and Ownership of Airports," *Aviation*, Mar. 23, 1929.

⁹ See, for example, Bullard, J. E., "Financing the Municipal Airport Site," *Airports*, Nov., 1929.

SIZE AND LOCATION OF AMERICAN AIRPORTS

As a matter of fact, there is not an airport in the country which can boast of more than one thousand acres, and only eleven ports have areas of five hundred acres or more. Even in the largest cities—those with populations in excess of three hundred thousand—the average field has not more than two hundred and fifty acres, considering only the principal field of each city. Boston is served by an airport whose activities are crowded upon one hundred and sixty-five acres, and one hundred and seventy acres suffice for Mills Field, San Francisco, one of the busiest air harbors in the country.

It might well be supposed that the smaller cities—in the fifty thousand to one hundred thousand population group—would welcome their opportunity to secure suitable undeveloped land at relatively low prices, and would establish flying fields of adequate size. Instead, nearly half of the communities in this class which have airports have kept the area below one hundred acres, thus saving a few dollars and at the same time destroying all likelihood of satisfactory airport facilities.

From these figures it might be supposed that American cities were virtually unanimous in their decision to sacrifice size in favor of convenient location. On the other hand, a glance at the statistics of distances between airports and business centers might convey the impression that the need for nearness had been entirely overlooked.

In the average city whose population exceeds three hundred thousand, the principal airport is about eight miles distant from the center of trade. In San Francisco the distance is thirteen miles. The average distance between airport and business center is about

five and one-half miles for cities of more moderate size—with populations between one hundred thousand and three hundred thousand. Miami's municipal airport is ten miles away from the city's center, however, and Port Columbus, the splendidly equipped air terminal of Columbus, Ohio, is eight miles distant.

Even the smallest cities considered in this study—those in the fifty thousand to one hundred thousand group—have most commonly established their airports about four miles out. Ports nearer than three miles are very rare; while a few municipalities, such as Portland, Maine, and Charleston, South Carolina, are served by airports located from seven to ten miles distant from the trade center.

One is almost tempted to ask whether the cities of the United States, uncertain as to the relative importance of size and convenient location, have not sacrificed both. The truth of the matter is that conveniently situated tracts of land which conform to airport requirements are not easy to find. In most large cities, undeveloped tracts of four or five hundred acres close to the heart of trade simply do not exist. In those few cases where suitable land still remains idle, the cost of procuring it for airport purposes is almost prohibitive; and city councils, knowing very little about the needs of airports, are seldom willing to pay prohibitive prices. Private capitalists, if the development of the port is left to their initiative, are even less inclined to do so, for the question of profit is one they cannot afford to overlook.

MAIN AND AUXILIARY AIRPORTS

A large metropolitan center could best meet the problem of location versus size, in all probability, by establishing several airports—one large transport center, with an area of one

thousand acres or even more, situated fifteen or twenty miles from the business center, if necessary, and a considerable number of small landing and take-off areas placed as close as possible to the heart of the downtown district. Large transport planes from other cities would then land at the main port, transferring their passengers to small planes for the final lap of the journey to the center of the metropolis. A regular air shuttle or air taxi service could be established between the large, outlying field and the small, close-in areas.

This suggestion is not nearly so radical as it may seem to those unacquainted with air transportation. Virtually every large city¹⁰ already has from two to ten airports. Thirty flying fields are now in active operation within the New York region. All that remains, therefore, is to find or create for each metropolis an airport of sufficient size to serve as the main port, and then to coördinate all the fields of the city into a unified system.

The difficulties in the way of co-ordination should not be minimized, however. At present, the smaller and less important ports within each large city are almost all in private ownership, and private owners do not usually welcome the suggestion that their schemes and their methods of doing business be subordinated to the public need. It may sometimes be desirable for the city to purchase all these secondary fields, or else to create additional secondary fields of its own.

As to the suggestion that an air taxi service be established, such a service is now in operation across San Francisco Bay, between San Francisco and Oakland. Recently a San Francisco-Vallejo extension has been added. Of course, this line does not connect a

¹⁰ That is, every city with a population in excess of 300,000.

principal airport with auxiliary ports, but it serves to demonstrate the practicability of air taxi service. A few months ago it was proposed that small amphibian planes be used to carry passengers from some of Chicago's outlying airports to the water front of the downtown section, and it may not be long before this suggestion is adopted.

The principal objection to any such plan as that outlined above is that the cost would be excessive. Most cities would find their present municipal airports too small to serve as principal fields, and would be obliged to relegate them to the class of auxiliary ports. New and larger tracts of land, farther from the business section in all probability, would then have to be developed at considerable expense. But this ought not to be a serious objection, for in a very short time the pressure of increasing air traffic will almost certainly compel a great many cities to abandon their present airport sites and seek larger areas, whether or not they attempt to coördinate all the airport facilities within their borders.

SEGREGATION OF FLYING ACTIVITIES

Moreover, cities are beginning to learn that all flying activities cannot be conducted in safety from a single field. When commercial pilots are compelled to adjust their operations to the oft-times fantastic whims of student fliers, the results are likely to be disastrous and are certain to be unsatisfactory. The biggest problem in flight regulation is the control of training activities, and the only safe way to control such activities is to banish them entirely from major airports, thus forcing them to be carried on at auxiliary fields.

At the Newark airport, the aviation schools are permitted to have their hangar and repair facilities, but all operations are conducted from another field seven or eight miles distant.

Students are flown from the port to the training center, and no student is permitted to use the Newark airport until he has had at least fifty hours of solo flying. At the Denver airport, also, student flying is prohibited, while some fields, such as the Dayton airport and the Curtiss-Chicago field, are divided into two parts, one part for student training and the other for commercial operations.

About a year ago, *Airway Age*, one of the leading aeronautical publications, predicted editorially that in time all flying schools would be banned from municipal airports.¹¹ Many airport operators also feel quite strongly that commercial and military flying activities cannot both be conducted successfully from the same field, though their arguments are less convincing than those with regard to student training.¹²

Properly speaking, the distance from the airport to the downtown district is not a question of miles but of minutes. Miles are important merely because minutes must be spent in covering them. If only for this reason, adequate transportation facilities between port and city are an absolute necessity. Many municipalities, however, have failed to realize this rather obvious fact. Of one hundred and eighty-one airports for which information is at hand,¹³ nearly one hundred and fifty rely on bus or trolley lines, or both, to meet the local transportation needs of their patrons. Only fifteen have regular field cars to carry passengers to their journeys' end in comfort.

This small number of field cars indi-

¹¹ P. 793, June, 1929.

¹² Proceedings of the First Annual Airport Conference, reported in *Air Transportation*, p. 57, May 25, 1929.

¹³ The airports of practically all cities with populations in excess of fifty thousand are included.

cates a surprising lack of vision on the part of those responsible for airport policies, for air travelers are a comparatively wealthy group, demanding the best, and usually well able to pay for it. Most of them would be delighted to have the trip from the airport to the center of the city arranged in advance, even at a slight additional cost. They do not relish the task of hunting for the nearest trolley or bus line, which in more than one case is half a mile distant from the field. A few ports—seventeen or eighteen in all, among the flying fields of the larger cities—are not even provided with trolley, train, or bus service, and do not have field cars, so that passengers must resort to taxicabs or private automobiles. It is scarcely necessary to point out that such conditions are not likely to stimulate air travel.

DELIVERY OF MAIL

Quite as important as the prompt transportation of passengers is the prompt delivery of mail. Speed in the air must be matched by speed on the ground in sorting and distributing the thousands of pounds of letters which are carried daily by the mail planes. To facilitate this work, the Post Office Department has established airport post offices at a number of busy centers, among them Cleveland, Newark, Chicago, New Orleans, Atlanta, and Salt Lake City. Many such post offices will undoubtedly be added as the volume of air mail increases.¹⁴

In time, also, the common method of delivering letters from the airport to the center of the city, or even directly to large downtown office buildings, will probably be by means of underground pneumatic tubes. The use of such tubes, in order to hasten delivery, has long been urged by Second Assistant

¹⁴ See Means, Howard H., "The Airport Post Office," *Aviation*, Dec. 28, 1929.

Postmaster General Glover, who is in direct charge of air mail, and five cities¹⁵ have recently been selected for preliminary installations. There is no question as to the practicability of the scheme. Tons of letters are handled

every day by New York City's twenty-seven miles of double pneumatic tubes, and in some of Manhattan's newer skyscrapers, every private office has its own connection. The only deterrent to widespread adoption is the high cost.

CHAPTER II

AIRPORTS AND THE DEPARTMENT OF COMMERCE

WHEN municipal officials begin to make plans for an airport, they usually find that they are badly in need of competent technical assistance. Even the city engineer, who probably knows more about the matter than anyone else in the city's service, is not usually qualified to say with assurance what tract of land should be chosen and what equipment should be procured. Under the circumstances, one of the best places to turn to for advice is the United States Department of Commerce. The Department's Aeronautics Branch, established under the provisions of the Air Commerce Act of 1926, stands ready to aid communities in the selection of airport sites. Its experts devote a considerable portion of their time to this work.

Of course, the preliminary task of weeding out all obviously unsatisfactory sites, so as to narrow the choice as much as possible, must be done by the city itself. Maps of the surrounding country must be procured. Information should be obtained concerning the exact size of each proposed tract, its distance in miles and minutes from the center of the city, existing transportation facilities, and availability of electric current and water. With this and other pertinent information at hand, including data concerning prevailing winds and general

weather conditions, the Department's specialist need only pay a flying visit—literally speaking—to each site under consideration. He is then in a position to make his recommendation, which may or may not be approved by the city fathers.

THE AIRWAY BULLETINS

One of the important jobs which the Aeronautics Branch has set itself is the preparation of a separate *Airway Bulletin* for every airport in the country. This bulletin, a single sheet seven and a quarter inches long by four and a quarter inches wide, has two maps on its face—one showing the location of the port in relation to the city it serves, and the other showing the actual field layout. On the back of the sheet is a collection of miscellaneous data about the port. Its position, size, and shape are given, as well as the number and the type of runways, the nature and the location of obstructions, the lighting facilities, and the accommodations for planes and passengers, to mention only a part of the information which is included.

Some of these data are incomplete, while others are grossly inaccurate. But omissions and errors need occasion no surprise when it is realized that the Aeronautics Branch must rely almost entirely upon the cities themselves, or upon private owners, in the case of commercial ports, to supply the desired

¹⁵ New York, Boston, Chicago, Cincinnati, and Los Angeles.

information. Its staff is so small and so busy with other matters that it cannot possibly take the time to check the answers received. Despite their faults, the *Airway Bulletins* are valuable aids to air travel. Reproductions of the two sides of the bulletin for Fort Wayne's municipal airport are given.

AIRPORT RATINGS

Under the provisions of the 1926 Air Commerce Act,¹⁶ the Secretary of Commerce is authorized "to provide for the examination and rating of" airports. This duty has been assigned to the Aëronautics Branch, which has set up very comprehensive airport standards. Acceptance of these standards, it must be understood, is purely voluntary. Every airport is entirely free to disregard them, but unless it meets at least the minimum requirements it will not receive a rating from the Department of Commerce.

Lack of a Federal rating means little or nothing at the present time, because so few ratings have been issued. Only two airports had been rated up to June 1, 1930.¹⁷ But as the number of rated airports increases, and virtually all the more important fields are included in the list, the stamp of Federal approval is likely to become the *sine qua non* of successful operation for every commercial airport. Fliers are fairly certain to choose those ports which can give them a reasonable assurance of satisfactory conditions—an assurance, moreover, backed by the Federal Government.

The regulations of the Aëronautics Branch provide for several different ratings, according to the kind of facilities furnished. Thus, an airport which fails to meet Federal requirements in every particular, but is fairly

satisfactory in most respects, may receive a rating which indicates the exact stage of its development. Only if conditions are entirely bad will the Aëronautics Branch refuse to issue any sort of a rating.

This system is partly responsible for the small number of fields rated. Those responsible for the destiny of an airport are usually disinclined to accept anything less than the very highest rating issued. Rather than be branded as inferior, they are likely to defer their rating application, hoping that at some future time they will be able to meet all requirements and receive the unqualified approval of the Federal Government.

But there is another reason for the scarcity of rated airports. Before a port receives its rating it must be visited by a Federal representative, who checks the information submitted by the airport authorities; and since the Aëronautics Branch is badly undermanned, months may elapse between the receipt of the rating application and the visit of the Federal inspector.

The application, which is submitted on a form prepared by the Aëronautics Branch, must include a vast quantity of data concerning the port. One hundred and twenty questions, grouped under forty-seven heads, must be answered. These questions deal with such matters as landing area, general facilities, and night lighting equipment. A sketch which shows in detail the layout of the port must accompany the application.

With all this information at hand the Aëronautics Branch is in a position to determine the proper rating of the airport, and only the confirmation of the Federal field representative is necessary before the rating is finally issued. Ratings are issued for periods of one year, but may be renewed. They may be revoked at any time for

¹⁶ 44 Stat. L. 568.

¹⁷ The municipal ports of Pontiac, Michigan, and Denver, Colorado.

DEPARTMENT OF COMMERCE
AERONAUTICS BRANCH

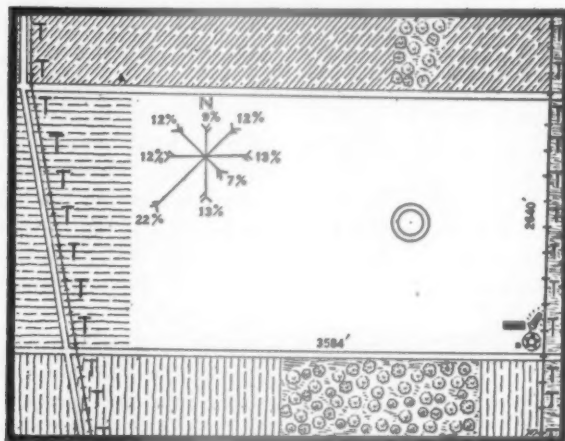
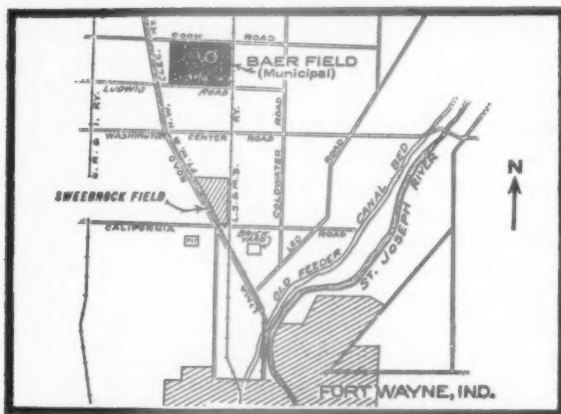
Airway Bulletin

No. 523, Washington, January 16, 1929

INDIANA

FORT WAYNE

Baer Field



31296-29

2

FORT WAYNE, IND.

Name: Baer Field.

Class:

Municipal. Rating, ———.
Owner, city of Fort Wayne; operator, Board of Park Commissioners.

Position:

Lat. 41° 10' 25" N., long. 85° 08' 24" W.; alt. above sea level, 825.6'; mag. var., 0° 29' 45" W., 1929; annual increase, 3' 35".
Distance and direction from city, 4¼ miles N. of courthouse; R. R. runs due N. out of city past the field.

Description:

Size, 2,640' x 3,584'; acres, 220; shape, rectangular.
Surface, sod; gradient, level; drainage, natural and tile.
Landing strips or runways, none; field being graded; best landings marked with green markers in daytime and green lanterns at night.

Obstructions:

Telephone poles and wires to E. and W.; trees to S. and N.; beacon tower and hangar in SE. corner.

Marking (day), none.
Lighting, tower marked with red obstruction lights.

Marking and identification:

Standard 100' white circle, in E. center of field.
Name on hangar, FORT WAYNE on roof.
Other marking, all buildings painted yellow.
Wind-direction indicator, illuminated cone on beacon tower.

Lighting:

Beacon, 24" rotating, 6 r. p. m., 8,000,000 candlepower, on tower in SE. corner.
Boundary lights, none.
Approach lights, none.
Flood lights for landing, yes.
Other lighting, ceiling projector; buildings flood-lighted.

Accommodations:

Personnel for servicing, yes.
Landing fee, none; storage rates, none.
Mechanic's charge, \$1.50 per hour.
Hangars, one 42' x 140' x 13' 6"; clearance.
Repair facilities, none; spares, none.
Specification fuel and oil, yes.
Guard, yes; fire apparatus, hand extinguishers.
Quarters, in city; meals, in city.
Transportation to city, taxis and interurbans.
First aid, yes.

Mooring mast, none.

Communication and signal equipment:

Telephone, yes; telegraph, by phone.
Radio, none.

Meteorological data:

Prevailing winds, summer SW., winter SW., annual SW.
Heaviest winds are usually from W. or NW. Winds of 40 m. p. h. or over are recorded 6 times per year, chiefly during Nov. to Apr., incl.
Highest recorded velocity is 68 m. p. h.
Dense fog occurs 1 d. p. m. from Oct. to Mar., incl., and infrequently from Apr. to Sept., incl. Light fog occurs 2 or 3 d. p. m. Sept. to Mar., incl., and infrequently from Apr. to Aug., incl. Most fogs occur between 4 and 10 a. m., with an average duration of about 6 hours.
Precipitation as heavy as 1" or more in 24 hours is recorded about 6 times per year, with greatest frequency during summer months.
Average snowfall, Dec. to Mar., incl., is about 7".
Weather map and display board, yes.
Nearest weather bureau, Fort Wayne, Ind.
Nearest upper-air observer, Royal Center, Ind. (W. B.).

Remarks:

Baer Field Club; Fort Wayne Chapter of N. A. A.
FORT WAYNE with arrow pointing to airport on building in city and on gas tank SW. section of city and W. side of city. Field at present being conditioned.

failure to maintain standards. In addition, any major change on a rated port must receive Federal approval.

"A1A"

The highest rating issued by the Department of Commerce is "A1A." The first letter of this combination refers to general equipment and facilities. An airport which is satisfactory in every respect *as to general equipment and facilities* is given an "A" rating. Less completely equipped ports may receive the letters "B," "C," or "D"—"D" indicating that general equipment and facilities leave very much to be desired. There is no "E" rating.

The figure between the two letters shows the size of the effective landing area. "1" is awarded to an airport whose landing area is considered adequate for all purposes, while "2," "3," and "4" indicate successively smaller tracts. The figure "5" is reserved for airports "not having landing areas meeting the minimum requirements for a '4' rating on size but which the Secretary of Commerce considers safe for the use to which they are being put."¹⁸ There is also an "0" rating. "An airport which, in the opinion of the Secretary of Commerce, is unsafe for operation, but from which operations are nevertheless taking place, and which requests a rating, will be rated '0'."¹⁹ It is highly improbable that many "0" ratings will be issued, for airport owners and managers are more likely to avoid the Department of Commerce and its representatives than to apply for Federal ratings if they know that their fields are so small as to fall below the minimum standard of safety.

The final letter of the "A1A" or other letter-figure-letter combination

refers to night lighting equipment. "A," of course, is the highest rating, and indicates that a port possesses all the lighting facilities which the Aëronautics Branch deems necessary for safe night operations. There are also "B," "C," "D," "E," and "X" ratings. "X" is given "to airports having no night lighting equipment, or which do not provide all night operation of lighting equipment, or which do not keep this equipment available for operation on request."²⁰

The Federal rating requirements above discussed obviously refer to airports for landplanes. Seaplane airport rating regulations have also been prepared by the Aëronautics Branch, but may safely be ignored because so few American cities have seaplane bases.²¹

The standards set up by the Federal Government for landplane ports merit the serious consideration of every student of airport problems, for they represent by far the most careful analysis of airport needs which has yet been attempted. They are open to criticism in certain respects of, course; virtually every pioneer work subsequently reveals more or less serious weaknesses. But the weaknesses of the rating regulations may reasonably be expected to disappear as the Aëronautics Branch makes revisions from time to time; and even in their present form they are the best criteria we have by which to judge the adequacy of present-day airports.

BASIC REQUIREMENTS

The Federal regulations specify certain basic requirements which must be met by an airport before it becomes eligible to receive a rating. One of these requirements is a suitable landing area. To be "suitable," the area must

¹⁸ "Airport Rating Regulations," *U. S. Dept. of Commerce, Aëronautics Branch, Bull. 16*, p. 12.

¹⁹ *Ibid.*

²⁰ *Aëronautics Bulletin*, *op. cit.* p. 18.

²¹ See p. 263.

be smooth, well drained, approximately level, and free from obstructions and depressions. The maximum slope permitted at any point is two and one-half per cent, with a mean maximum of two per cent.

Emphasis is placed on freedom from obstructions, because buildings or wires which would in no way affect a different type of development may prove a serious menace to safety in the vicinity of an airport. Generally speaking, an airplane operating at or near sea level rises and descends at a ratio of seven to one. That is, for every foot it rises after taking off, and for every foot it descends prior to landing, it moves forward seven feet. Of course, some planes are designed to rise much more rapidly, especially if they are carrying light loads. Then, too, an experienced pilot is able to land at a much steeper angle than the normal seven-to-one, by making use of the so-called "side-slip" landing—a maneuver in which the descent is begun at an unusually high altitude and one wing is depressed until the plane slips sidewise, the straightening out process occurring only about forty or fifty feet from the ground.²² For all operations, however, including the activities of heavily loaded transport planes, it is necessary to assume a seven-to-one ratio. This means that a fifty-foot building at one end of the field reduces the effective landing area by three hundred and fifty feet—at sea level. If the airport is considerably above sea level, a fifty-foot building becomes an even more serious matter, for every increase in the altitude of the port makes necessary higher landing and taking off speeds and flatter climbing angles. A flying field located five thousand feet above sea level must count upon a ratio of approximately ten to one. Small won-

der that the Aëronautics Branch insists upon freedom from obstructions!

WIND DIRECTION INDICATORS

Every airport which desires a rating must have an approved type of wind-direction indicator. The importance of this requirement will be appreciated when it is understood that an airplane lands and takes off into the wind. It takes off into the wind because the pressure of the air against its wing surfaces facilitates its upward movement—a principle readily understood by any one who has ever flown a kite. It lands into the wind so that it may utilize the air's force to retard its motion. To land and take off with the wind would be to increase materially the distance required for these operations, and to land at right angles to the wind would be to invite disaster. So the pilot must know the wind's direction. An indicator of some sort is almost as essential as an adequate landing area.

Wind-direction indicators are of two types—wind cones and wind tees. The wind cone, which is by far the more common, is simply a piece of unbleached muslin in the form of a dunce cap, held open at the mouth by a piece of wire and so mounted as to fly freely with the wind. The wind tee, in the shape of a cross or letter "T," is made of wood or metal, placed in a horizontal position, and mounted in such a manner as to swing readily on its pivot. In other words, it is a variant of the ordinary weather vane. It has the merit of being more durable than the wind cone, but, unlike the cone, it gives no indication whatever of wind velocity.

DRAINAGE AND OTHER REQUIREMENTS

Among the basic Federal regulations is the statement that every airport which receives a rating must be situated

²² Black, Archibald, "*Civil Airports and Airways*," p. 21.

on a good road leading to the nearest city or town. An "adequate" drainage system is also specified, but this requirement is coupled with the explanation that "if the natural drainage is sufficient, no artificial drainage system will be required." Drainage experts are inclined to question the assumption that natural drainage can ever be satisfactory for a port which accommodates any considerable quantity of air traffic, except perhaps in some few sections of the country where 'l conditions are very exceptional. Yet, a substantial majority of airports, even in those cities with populations of more than fifty thousand, rely solely on the drainage provided by nature.²³ Whether the Aeronautics Branch would pronounce such drainage facilities—or lack of facilities—satisfactory in most cases is not certain. It all depends upon the interpretation of "sufficient" and "adequate."

The landing area of every airport which meets the basic Federal requirements must be marked with a circle having a diameter of at least one hundred feet. This circle, a four-foot band of concrete, crushed rock, gravel, or some other suitable material set flush with the surrounding surface, is to be kept whitewashed or painted chrome yellow, unless clearly visible at a considerable height. The name of the city, in letters from ten to thirty feet high, is to be placed near the circle if possible, but not in it. The Aeronautics Branch plans to put within the circle the rating of the port, and it may well be that as ratings become more numerous this scheme will acquire a new significance. Other required markings include sheet-metal cones outlining the usable portion of the field and painted according to specifications, as well as chrome yellow flags to indicate temporarily unsafe landing areas.

²³ See p. 246.

There are also a number of other basic requirements. Facilities for supplying planes with gasoline, oil, and water must be provided, and drinking water must be at hand. The personnel of the port must be on duty during the day hours, or must be easy to reach by telephone. If runways are used, they must be at least one hundred feet wide, and "constructed of some wear-resisting material." There must be dependable communication and transportation service between airport and city.

GENERAL EQUIPMENT AND FACILITIES

These, then, are the basic requirements which an airport must meet before a rating will be granted. In addition, it must measure up to a vast number of other specifications if it is to receive a high rating. It will be remembered that the first letter of the Department of Commerce's letter-figure-letter combination refers to general equipment and facilities. In order to receive an "A" rating on this point, fairly high standards must be met. Every airport which qualifies must have at least one hangar with inside measurements of eighty by one hundred feet, with an overhead clearance of not less than eighteen feet. Some provision for heating the hangar must be made during freezing weather. The wind-direction indicator must conform to a number of detailed specifications. Extensive repair facilities, several weather instruments, and first aid equipment, including an ambulance or some vehicle adaptable to ambulance use, must be at the port.

There must be adequate fire-fighting facilities, also; "adequate" in this case being interpreted largely according to the standards of the National Board of Fire Underwriters. Waiting and rest rooms and a restaurant or other public source of food supply are required, as

well as sleeping quarters for at least three men in addition to the personnel of the port. Means must be provided for removing snow at those fields where the snowfall is sometimes sufficiently heavy to hamper flying operations. Every airport within a radius of four hundred miles of a Department of Commerce airways radio station²⁴ must have a radio receiving set and a loud speaker. A register of arriving and departing aircraft must be kept, showing such essential information for each plane as the license number, the names of owner and pilot, the number of passengers and crew, and the like. Lower standards are set up for a "B" rating on general equipment and facilities, and of course the "C" and "D" ratings are still easier to obtain.

SIZE OF THE LANDING AREA

When an airport is given an A1A rating, the "1" refers to the size of the effective landing area, as already pointed out. In order to receive this highest rating on landing area, the port shall have at least twenty-five hundred feet of effective landing area in all directions, with clear approaches, and the field shall be in good condition at all times; or it shall have landing strips not less than five hundred feet wide, permitting landing in at least eight directions at all times, the landing strips not to cross or converge at angles of less than forty degrees, nor any one of the landing strips to be less than twenty-five hundred feet in effective length, with clear approaches. By clear approaches is meant absence of buildings, towers, and other obstacles over which a seven-to-one glide or climb to or from the edge of the landing area would not be possible, and absence of smokestacks, towers, high tension power lines, etc., which constitute obstructions even though beyond the seven-to-one ratio.²⁵

²⁴ See pp. 261-262.

²⁵ This statement, of course, refers to ports at or near sea level. Since a seven-to-one glide or climb ratio will not suffice for ports situated at

There is no need to give in detail the specifications for "2," "3," and "4" ratings.

NIGHT LIGHTING EQUIPMENT

In order to secure an "A" rating on night lighting equipment, as represented by the last symbol of the "A1A" combination, an airport must meet a great many requirements. First, it must have a beacon with certain carefully prescribed characteristics. In addition, it must have white or yellow boundary lights, with green lights to show best approaches in case the entire field is not available for landing in all directions at all times. The wind-direction indicator must be illuminated, of course, for pilots landing at night are quite as dependent upon wind direction as daytime fliers. All obstructions on the airport and in its immediate vicinity must be marked with red lights.

CEILING PROJECTORS

The Federal regulations also specify that each airport of highest grade must have a ceiling projector. This device requires a word of explanation. Every airman approaching a port at which he expects to make a landing is anxious to know the height of the "ceiling" above the field—that is, the height of the lowest layer of overhanging clouds. It is highly important that he possess this information, for otherwise he would have no way of telling just how close to the ground he must come in order to obtain clear vision. So the port authorities must be prepared to send out word as to the ceiling height from time to time, which means that they must have some way of measuring it.

altitudes in excess of one thousand feet above sea level, such ports must proportionately increase the size of their effective landing areas or the effective length of their landing strips, in order to secure a "1" rating.

In the daytime the most common method of measuring ceiling height is to send up very small toy balloons, whose rate of ascent is definitely known. By timing these balloons with a stop watch from the moment they leave the ground until they disappear in the clouds overhead, the ceiling height can very readily be computed. At night, however, the ceiling projector is used. It is an incandescent searchlight set at an angle so as to cast its beam against the lowest cloud layer. Most frequently the light is set at an angle of forty-five degrees, and in that case, when the distance from the projector to a point on the ground directly beneath the light spot has been measured, usually by pacing, the ceiling height is known. For it requires no involved study of mathematical formulæ to understand that the two legs of a right-angle triangle are equal to each other.

This method of using the ceiling projector is not entirely satisfactory, however. At best it gives only a rough approximation of actual height, since pacing off a distance is never an accurate means of measurement. Moreover, it is inconvenient and time-consuming. Best results are obtained when the ceiling projector is used in conjunction with an alidade, a device which permits direct reading of ceiling height. The projector and the alidade are commonly placed five hundred feet apart, and the projector is directed at any convenient angle—usually $63^{\circ} 26'$ above the horizontal. The alidade is then used to sight at the light spot overhead, and furnishes a direct reading, in feet, of ceiling height.

ALL-NIGHT OPERATION

Every "A1A" airport must have a field floodlight system which provides "an even distribution of illumination (free from abrupt changes in intensity

and shadow areas) over the entire usable portion of the landing area."²⁶ The Aëronautics Branch also stipulates that most of the lights of the illuminating system, including the beacon, the boundary and obstruction lights, and some of the others must be kept burning continuously every night, from sunset to sunrise. Still better, though not required, the system should be in operation from half an hour before sunset until half an hour after sunrise. During the periods of late twilight and early dawn, artificial illumination is almost as essential as in the night hours. In order to make certain that the lighting system will be properly operated, and that twenty-four hour weather, repair, and fire-protection service will be furnished, sufficient personnel must be in attendance at all hours.

The cost of a night lighting system which will meet the Federal requirements for the highest rating varies widely. Probably the minimum amount is about eight thousand dollars, assuming the most favorable conditions with regard to the size, the shape, and the topography of the landing area, the number, the nature, and the location of obstructions to be marked, and the number and the size of buildings to be floodlighted. Some systems cost thirty-five thousand, forty thousand dollars, or even more. These figures, of course, do not include interior lighting.²⁷ Substantially smaller expenditures will enable an airport to secure a "B" or a "C" rating on night lighting equipment.

COMPULSORY RATINGS

Although Federal ratings are now given to airports only at the request of their owners, it has been suggested that

²⁶ *Aëronautics Bulletin*, op. cit., p. 16.

²⁷ Blee, Harry H., "Notes on Airport Lighting," *Department of Commerce Bull.*, p. 14.

the Department of Commerce be empowered to rate all ports other than private fields not available for commercial aviation, regardless of owners' wishes.²⁸ Such a plan has much to be said in its favor. If ratings are desirable—and the aviation industry seems to be generally agreed that they are—then they ought not to be dependent upon the whims of municipal officials or private capitalists who feel that the plain truth concerning the ports under their control should be concealed from pilots and passengers. If ratings for all ports would bring an added measure of safety to aviation—and there seems to be little doubt that they would—surely they ought not to be withheld for fear of hurting some airport owners' feelings. Lack of ratings may lead to accidents in which more than feelings will be damaged.

Of course, compulsory rating of airports would probably have to be accomplished by indirection. If Congress passed a law requiring those in charge of every airport to submit to the Department of Commerce all the information which must now be included on a rating application, and in addition provided penalties for purposely false

or misleading statements, the courts would be very likely to declare the entire statute unconstitutional, as an attempt to secure Federal control over a matter properly vested in the states.

There seems to be no good reason, however, why Congress should not prohibit airplanes and airplane pilots *engaged in interstate commerce* from using unrated airports, except in emergencies. Such an enactment would be well within the scope of Federal power, and would be quite as effective, for all practical purposes, as legislation specifically requiring all ports to be rated. For the airplane is primarily an interstate vehicle; it travels hundreds or even thousands of miles as a part of its daily routine. Those planes which do not make interstate journeys at more or less frequent intervals are so few and so widely scattered that they could scarcely support a flying field designed to serve commercial aviation. Therefore all airports, with the exception of those few which meet strictly private needs, such as factory fields reserved for the testing of planes or school fields used for flying instruction, would be under the immediate necessity of seeking Federal ratings.

CHAPTER III

AIRPORTS OF TODAY

THE purpose of this chapter is to present in concise form a statement of existing physical conditions at the airports of American cities. Some criticisms of existing conditions, and suggestions for improvement, are also included. These criticisms are based in large measure, though not entirely,

on the standards established by the Department of Commerce for rated ports, for the very good reason that no other comparable set of standards is available.

Fairly complete information has been obtained for one hundred and eighty-one airports, situated in one hundred and eight different cities. These cities all have populations in excess of fifty thousand, according to 1927 census estimates. The study was confined to these larger urban centers

²⁸ Rohlfing, Charles C., "A National Policy for the Regulation and Promotion of Civil Aeronautics in the United States." This 1930 doctoral dissertation (University of Pennsylvania) has not yet been published.

because it was felt that figures for smaller communities would not properly tell the story of airport development. While there are hundreds of airports in cities which lie below the deadline of fifty thousand population—among them a few splendidly designed and equipped fields—most of these ports would almost certainly fail to meet even the basic requirements of the Department of Commerce. They would not be entitled to receive even the lowest Federal rating.

A CLASSIFICATION OF AIRPORTS

It has been necessary to distinguish between principal and auxiliary airports, because in a considerable number of cases several ports serve the same city or the same metropolitan area. They are not commonly labeled by their owners as "principal" and "auxiliary"; the distinction is more or less arbitrary, though made on the basis of size and equipment. Sometimes, as in the case of New York or Los Angeles, it is difficult to select the chief airport, since several are competing with one another for the favor of the general aviation public. But some such distinction is absolutely essential to a clear understanding of the facts, so in each city the flying field which conforms most nearly to Federal regulations has been designated as that city's chief airport—for purposes of this study only, of course. A single illustration will suffice to show the importance of treating principal airports separately. Suppose the statement were made that nearly two-thirds of the airports in the very largest metropolitan centers—those cities with populations in excess of half a million—possessed no beacon lights. That statement would be true, but utterly misleading; for it would fail to show that the large majority of ports considered were secondary fields, used for the most part by school and sight-

seeing planes, and that nearly every one of the great cities had at least one field equipped with a beacon of adequate intensity.

The cities included in this analysis have been put into four population groups, following the Census Bureau's classification. Group I cities are those whose populations exceed five hundred thousand. The municipalities of Group II have from three hundred thousand to five hundred thousand inhabitants. Group III includes the cities of from one hundred thousand to three hundred thousand people. The smallest cities—fifty thousand to one hundred thousand—are in Group IV. Obviously, some such classification is desirable as a matter of convenience to writer and reader. Otherwise, it would be necessary, when referring to "large" cities and "small" cities, to specify in every instance exactly what was meant.

SIZE OF PORTS

It has already been pointed out that the airports of most American cities are too small.²⁹ The Department of Commerce's requirement for a twenty-five-hundred-foot landing area³⁰ cannot be met with much less than one hundred and fifty acres, even if we assume freedom from obstructions in all directions. And then no space is left for hangars, repair shops, administration buildings, and other necessary structures—omitting factory sites from consideration altogether. So the absolute minimum for a port that is to serve commercial fliers should be two hundred and fifty acres. Five hundred or even one thousand acres would give much more satisfactory results.

Just half of the principal airports in Group I cities have areas of two hundred and fifty acres or more; only three of these cities have five-hundred-acre

²⁹ See p. 231.

³⁰ For airports of the highest grade.

flying fields. Considering all the airports of these large metropolitan centers, instead of just the more important ones, it is found that considerably more than half of them have areas of less than one hundred and fifty acres. The acreage of one port is twenty-two.

The airports of the cities in Group II make an equally good—or equally poor—showing as to size. In Group III, however, most of the principal airports have between fifty and one hundred and fifty acres, with the average slightly above one hundred. Of course, there are some outstanding exceptions, such as Akron with its eight hundred and ninety acres and Oakland with its eight hundred and twenty-five; but these splendid ports only serve to emphasize the mediocrity of most of the others. And it must be remembered that the cities of Group III are communities of no mean proportions. Every one of them is among the one hundred largest cities of the United States.

The Group IV cities, though important locally, are not usually centers of aeronautical activity,³¹ and for that reason one might expect to find their airports somewhat smaller. The expectation is completely fulfilled. Nearly half of the principal airports in this class have areas ranging from fifty-five to ninety acres; two thirds of them are so small that they could not possibly meet the size requirement set up by the Department of Commerce for the highest rating. When all the airports of these cities are considered, including both chief and secondary ports, we find that considerably more than half of them have less than one hundred acres apiece; the most popular size is eighty acres.

³¹ There are some exceptions, however, such as Wichita, Kansas; Pontiac, Michigan, and Fresno, California.

Some persons contend that the emphasis placed on size by the Department of Commerce and by those in the aeronautical industry is unwarranted. They believe that future developments in airplane design will enable planes to rise and descend almost vertically, thus eliminating the necessity for long take-off and landing strips, and making large airports virtually obsolete. Detailed consideration of this argument is reserved until later,³² but it might properly be mentioned at this point that increasing air traffic and larger planes are likely to offset any advantages gained from improved climb and glide devices, so that the need for large airports will probably continue into the indefinite future. Cities would do well to base their plans on this supposition.

The large majority of airports, in all four groups of cities, are rectangular or nearly so. The assumption has commonly been made that a rectangular field, as nearly square as possible, would be most suitable for airport purposes, and this assumption seems to have been borne out by experience. Triangular, L-shaped, and hopelessly irregular fields have therefore been developed as airports only when suitable rectangular plots of ground could not be found. Recently, some architects and city planners have proposed a number of different shapes for flying fields—circular, hexagonal, octagonal, and the like;³³ but whether these suggestions will have any marked effect upon the development of American airports is not certain.

AIRPORT SURFACES

Just about half of the airports under consideration have prepared runways, the nature of the preparation ranging

³² See pp. 275–276.

³³ See, for example, *American Airport Designs*, Lehigh Portland Cement Company, 1930.

all the way from a light surface oil treatment to a heavy concrete pavement. Those ports which have no runways should keep the entire field surface in proper condition for landing and taking off at all times. This can best be done by raising—or by preserving, as the case may be—a good growth of hardy turf. Even those ports which make use of treated runways should have the remainder of the field area grass covered, so that a plane which inadvertently runs off the edge of a prepared strip, or fails to land exactly on it, will still find a reasonably firm surface beneath its wheels.

When a field is taken over for airport purposes, the grass already growing should be retained wherever possible, for a firm stand of turf cannot possibly be raised in less than a year. Usually, a still longer period is required to produce satisfactory results. Sometimes, extensive filling and grading operations are necessary, however, so that existing sod cannot be saved. The question of raising a new turf in the shortest possible time then becomes a matter of considerable importance. Properly selected seed, properly fertilized soil, and proper watering will all help somewhat, but grass growing is one phase of airport construction that cannot be hastened to any considerable extent. The authorities in charge of Portland's municipal airport are so impressed with the necessity of keeping the turf in good condition that they have installed an underground sprinkling system, and their example has been followed at a few ports scattered throughout the country.³⁴

³⁴ With regard to grass surfaces for airports, see Shaw, B. Russell, "Airport Planning," *Report of the Municipal Airport Committee of the American Road Builders' Assoc.*, pp. 14-15, 1929; Black, Archibald, *Civil Airports and Airways*, pp. 48-51; Mills, Charles B., "Selection of Seeds for Airport Turf," *Airports*, p. 15 et seq., March, 1929.

The overwhelming majority of American airports have grass surfaces, either in lieu of or in addition to specially prepared runways. A few of them, however, have surfaces of gravel, sandy loam or clay, or hard-packed sand. These substitutes for turf have not been generally satisfactory, except in a very few instances and as the result of special conditions. It should be added that many fields which are classified as grass covered are in reality covered only with patches of grass and weeds.

DRAINAGE

The matter of airport drainage has not received near the attention that it deserves. As has already been pointed out,³⁵ the vast majority of airports in cities of more than fifty thousand population rely entirely on such drainage as may be provided by nature. Even when the principal ports are separately considered, natural drainage is found to be most common in all groups except Group I—the great metropolitan centers.

This is only another way of saying that most airports never have satisfactory surface conditions, save for very limited periods. At some seasons they are troubled with blinding clouds of dust; at other times they become veritable seas of mud. Lack of proper drainage facilities makes possible a considerable saving in the cost of airport construction, but it places a heavy burden, in operating expense and in risk of disaster, on airplane owners and pilots. While it is true that a stratum of coarse sand or gravel, four or five feet in depth and resting above the ground water level, would usually make pipe drainage largely unnecessary, yet such a layer is very rarely found at an airport site, and could be artificially constructed only at prohibitive cost.

³⁵ See p. 239.

Of those airports which resort to artificial drainage, the overwhelming majority, regardless of the size of the port or the size of the city, make use of tile pipes. These pipes are placed in trenches several feet below the surface of the ground, and the trenches are then filled with crushed rock or gravel.³⁶ Metal pipes occasionally take the place of tile. The distance between pipe lines varies from forty to about one hundred and twenty-five feet, depending on a number of different factors, such as the amount of slope of the field, the quantity and the frequency of rainfall, and the nature of the soil.

Most persons—even those in charge of airport construction—do not realize how greatly the composition of a soil may vary over a comparatively small surface. "There will not be one airport in a hundred with a uniform type of soil over its entire area. Nature has made as many variations in soils as in people's faces."³⁷ Consequently, soil testing should be made at a number of different spots on every field, in order to determine the exact type of drainage needed for every portion of the area. The easy assumption that what is good for the center of the field, or for one corner, is good for the entire port, has already resulted in a great deal of unsatisfactory drainage.

Some drainage has proved inadequate because it has been fashioned too closely after the farm drainage with which its designers were familiar. There have even been instances of airports drained by old farm tile, left over

from the days when wheat instead of wheels marked the surface of the ground. Such conditions are unfortunate, for

the prompt removal of surface water before it can soften the top soil is the chief requirement of airport drainage, and distinguishes it from other forms of subdrainage. In farm drainage, . . . water on the surface for a period of ten or twelve hours following severe storms would be of no serious consequence. The system of subsurface drain lines employed is similar in both cases, but requires certain modifications in airport drainage to meet the new and more severe conditions of service.³⁸

IMPACT FORCE OF PLANES

It is a fundamental of engineering practice that every structure, whether a drain pipe, a bridge, or a building, should be designed to bear the heaviest known load which may occur. Moreover, a factor of safety should properly be added, in order to guard against unforeseen loads and imperfect materials. Now, what loads must be supported by airport drainpipes? First, there is the dead load—that is, the weight of the material with which the ditch is filled. That load can very readily be computed; it has been carefully studied by engineers over a considerable period of years, and accurate formulæ have been prepared. Second, there is also a live load—the weight of vehicles, chiefly airplanes—transmitted through the filling substance to the pipes. The live load caused by airplanes which are standing or in motion upon the surface of the field can be determined quite as easily as the dead load of the filling material.

But what of the impact force which is exerted when a plane lands? Is that blow greater than the static weight of the plane, or less? An accurate answer

³⁶ At some few ports no pipes are used. The drainage system consists merely of trenches backfilled with stones or gravel, covered, of course, with a layer of soil. The best that can be said for such a drainage system is that it is better than no drainage whatever.

³⁷ Miller, Wendell P., paper presented at the First Annual Airport Conference, May 15, 1929. This paper is published in *Air Transportation*, pp. 16-21, May 16, 1929.

³⁸ Colvin, C. M., "Soil Considerations for Airport Drainage," *Airports*, p. 11, March, 1929.

is highly important, for in the absence of absolute accuracy, all estimates of airport drainpipe loads must be largely guesswork. It must be confessed that at the present time there is no general agreement as to the impact force of planes, or as to how that force should be measured. The estimates differ widely. Sikorsky, the famous designer of aircraft, believes that the amount of impact is negligible.

The stress . . . under airplanes is less than under automobile traffic, so that a pavement considered not strong enough for heavy road traffic would still be good enough for airplane landing. The blow delivered by the landing machine is taken care of by the use of compressors similar to those used on artillery guns, and a system of springs that practically absorb all impact.³⁹

These words contrast strangely with the statement of Colonel Harry H. Blee, director of the Federal Government's Aëronautics Branch, and a prominent authority on aviation, who recently declared:

It may be assumed that the landing load will vary from about three times the weight of the plane, for planes weighing five thousand pounds, to about twice the weight of the plane, for planes weighing from twenty to thirty thousand pounds.⁴⁰

Another writer states that, according to the consensus of opinion, the impact blow for a larger plane is between two and five times the weight of the plane.⁴¹

What, then, of the principle that a structure should be designed to bear the heaviest known load which may occur? Have most airport drainage systems been planned with this thought

³⁹ Quoted by C. N. Conner in his paper "Airport Surfaces," *Report of the Municipal Airport Committee of the American Road Builders' Association*, p. 40.

⁴⁰ *Ibid.*

⁴¹ Cotton, Harry E., "Strength of Drain Pipes for Airports," *Airway Age*, p. 1606, Oct., 1929.

in mind? If we accept the apparently conservative assumption that the landing impact of a plane is equal to about twice its weight, and if we remember also that larger and larger airplanes are constantly being produced, we are forced to the conclusion that most of the drainpipe now installed on American airports is seriously below the margin of safety, and is subject to the danger of cracking and eventual collapse.⁴² One airplane now on the American market weighs over twenty-two thousand pounds when fully loaded, and planes weighing thirty thousand pounds are likely to become a commercial reality in the near future.

The cost of an adequate drainage system for an airport of ample size may be seventy-five thousand dollars, or even more, except under very favorable conditions. And even after the money has been spent, the surface of the field looks just about the same as before the improvement. Good drainage is quite as important as good hangars, but far less conspicuous. Small wonder, therefore, that the shortsighted persons who so often control airport development are usually satisfied with any sort of a drainage system, if only it is cheap!

HARD SURFACED RUNWAYS

Adequate drainage and good turf can postpone for some time the need for specially treated runways, except on those airports where traffic has already become a serious problem. But it is only a question of postponement—not of substitution. Grass covered areas can never take the place of hard surfaces when giant planes, heavily laden with passengers and freight, are ready to take to the air. While it is true that some very busy ports, including Stout Field at Indianapolis, Bowman Field at Louisville, and a vast number of

⁴² Cotton, Harry E., *op. cit.*, p. 1606.

European airdromes, still rely on turf surfaces, yet even at these ports the need for hard surfaces is becoming increasingly apparent.

The all-way field—the turf covered surface which permits planes to take off and land in every direction—has a great deal to be said in its favor. It is convenient, cheaply constructed, and cheaply maintained. But under the strain of heavy air traffic it quickly becomes rutted, especially if exposed to alternate freezing and thawing. Its inevitable mud during the wet season places an added burden on landing gears as well as on motors. Landings are more dangerous, and accidents more numerous. "With increasing traffic and the building of heavier transport planes, the demand for hard surfaced runways will be imperative in many cases," including all the more generally used fields.

Furthermore, the traveling public will demand smooth landings and take offs. From a safety standpoint, the runways will be necessary in order that heavy planes may take the air with the shortest possible run and thus attain a safe altitude before passing over the opposite boundary of the field.⁴³

Of course, the use of specially prepared runways does not eliminate the need for good turf. At any time, some emergency may compel a landing off the runway area, and then the value of a reasonably firm all-over landing surface, in addition to the runways, is fully appreciated.

SURFACING MATERIALS

When the decision is made to construct runways, the type of surfacing material must be selected. There are several low-type surfaces which give reasonable satisfaction in the absence

of very heavy traffic, and which have the merit of being comparatively inexpensive. One of these is the oiled surface. The top soil is broken to a depth of about three inches, and then the oil is applied. Two doses of oil are usually considered necessary. Afterward the ground is harrowed, and finally rolled. A treatment of this sort may be obtained for one-tenth of the cost of a good asphalt pavement, but it has numerous disadvantages. The expense of maintenance is high, the visibility is poor, and the background afforded for markings is unsatisfactory. Moreover, the oil treatment does not prevent the ground from becoming soft after rains and rutted after frosts.

Equally cheap, and just about equally satisfactory, is the placing of cinders on the runway surface. The cinders are simply dumped where needed, evenly spread by means of horse-drawn or motor-drawn equipment, and then rolled. Probably the chief defect of cinder runways is that the cinders are frequently picked up and thrown by the wheels of planes, causing considerable damage to the wing fabric, the motors, and the propeller blades. But there are other objections also—poor visibility and especially high maintenance cost. At the Chicago municipal airport, where cinder runways have been in use for some time, constant replacements of cinders are necessary, and this type of surfacing is now regarded by many with disfavor. A number of other ports use crushed stone or crushed slag in place of cinders, with substantially similar results.

The higher-type surfaces, such as macadam, brick, concrete, and asphalt, are becoming increasingly popular. Those in charge of airport construction are beginning to realize that cheap runway making is likely to prove poor economy. They are gradually learning

⁴³ Blee, Harry H., "Designing Safe and Adequate Airports," *Department of Commerce Bull.*, p. 6.

that the advantages of hard surfacing—at least at the busier ports—far outweigh the cost. These advantages include durability, low maintenance cost, freedom from mud and dust, and all-year-round service.

Of course, not all the materials used to construct high-type runways are equally satisfactory; each has its strong and its weak points. Macadam, for example, wears out rather quickly, and is a very poor reflector of light, but its first cost is comparatively low, and it is easy to repair. Concrete costs more, but is much more durable. Sheet asphalt and brick are both more expensive than concrete, generally speaking;⁴⁴ whether or not they are worth the difference is something yet to be determined.

AIRPORT PAVING PRACTICES

In examining the paving practices of American airports, a close relationship between the importance of the port and the type of paving is readily discernible. As might reasonably be expected, hard surfaced runways predominate at the principal fields of the largest cities—those with populations in excess of half a million. Concrete is used at Floyd Bennett Field, the new municipal airport of New York City; at Glendale's Grand Central Air Terminal, in Los Angeles; at the Ford airport and also at Detroit's municipal airport. Bettis Field, Pittsburgh, uses a patented macadam preparation. There are, however, several great cities—notably Chicago, Buffalo, and Milwaukee—whose chief ports are equipped with cinder runways, and at the

Cleveland airport no runways of any kind have been installed.

Hard surfaced runways are found at the airports of but a few cities in Group II, and at only a scattered handful of ports in the smaller communities. Runways which have been oil treated, or covered with cinders or gravel, are only slightly more common. In municipalities below the five hundred thousand population mark, the all-way field is still generally accepted, and probably will continue in popular favor for some time to come. Indeed, there is no reason why it should not do so, for in the absence of heavy traffic, a well-drained turf field is capable of giving excellent results.

RUNWAY EXPERIMENTS

A number of cities, realizing that runway construction is still in the experimental stage, like most other phases of airport development, have decided to put various runway materials to the test of actual use on a small scale before proceeding with their complete construction programs. One of the runways at the Ford airport, though made chiefly of concrete, has a section of bituminous macadam several hundred feet long. At the St. Louis municipal field, at least five different types of paving have been laid. Opportunity is thus afforded to study the reactions of different paving materials under practically the same conditions. After a time it should be possible to draw some very valuable conclusions.⁴⁵

It will be remembered that the Department of Commerce's "A1A" regulations specify landing strips at least twenty-five hundred feet in length for fields which are not all-way.⁴⁶ This twenty-five-hundred-foot minimum assumes clear approaches, of

⁴⁴ It must be understood that any attempt to compare the costs of airport runway paving materials is only tentative. Local conditions, and therefore local prices, vary so widely from section to section of the country that general statements may fail entirely to fit the facts in any one community.

⁴⁵ See the unsigned article, "Testing Runways at St. Louis," *Airports*, pp. 30-32, April, 1930.

⁴⁶ See p. 241.

course, and also assumes sea level conditions. Ports with high obstructions or at high altitudes must make provision for longer landing strips in order to meet Federal requirements. Moreover, there must be four landing strips as a minimum, so as to permit "landing in at least eight directions at all times."

The distinction between a landing strip and a runway, as made by the Federal Government, is that a landing strip is an area "*suitable by natural conditions or artificial construction* for the landing and taking off of airplanes," whereas a runway is always an artificial product. The landing strip must be at least five hundred feet wide; a width of one hundred feet will suffice for the runway. A five-hundred-foot wide strip of turf, hard surfaced or specially treated for one hundred feet of its width, thus includes both a landing strip and a runway, according to Federal definition.

Whether we consider runways or landing strips, or both, we find that the "A1A" requirements of the Department of Commerce cannot yet be met by more than a few of the airports of any group of cities, from the smallest to the largest. Even in the metropolitan centers, the number of fields which are able to measure up to Federal standards is astonishingly small—three or four at most. Landing strips are too short, too narrow, too few. A runway system at the average airport means two runways or possibly three. Four-runway systems are found at but nine or ten ports, though Chicago and Akron each have eight runways. Two thousand feet seems to be the most popular runway length at large airports, and fifteen hundred feet at smaller ones. Yet, a few ports boast of very long runways; the Oakland municipal airport has a runway seventy-two hundred feet long in the direction

of the prevailing wind, and at San Francisco's municipal field is a runway with a length of fifty-seven hundred feet.

DOUBLE RUNWAYS

On all the larger ports, double runways, or combination take off and landing strips, will probably be the rule in a few years. A double runway system is planned at the Detroit municipal airport, and a small portion of it has already been constructed. At Glendale (Los Angeles) a landing strip three hundred feet wide, made suitable by the application of a special grade of road oil, parallels a ninety-two-foot hard surfaced runway.

The most obvious advantage of separate take-off and landing strips is that they permit an exact adjustment of surface conditions to airplane needs. Such an adjustment is impossible with a single runway, for when an airplane takes off, it should have a smooth, hard surface to eliminate unnecessary drag and to facilitate a quick getaway; but when a plane lands, it needs a surface that is neither too hard nor too smooth. Very hard pavements accentuate landing shocks, and very smooth pavements are apt to be excessively slippery. With separate areas for landing and taking off, however, conflicting requirements are readily reconciled. A system of double strips has still another advantage for busy fields—if installed today, it anticipates the growing volume of air traffic which is likely to tax the runway capacity of American airports in the near future.

TAXIWAYS AND APRONS

Most of the principal airports in the larger cities—Groups I and II—have specially prepared surfaces over which planes may taxi into position for the starting run. These strips, known as taxiways, are frequently placed around

the edge of the field. Sometimes they are constructed of concrete, asphalt, or macadam, but cinders and gravel are more common. In the smaller communities, only a very few ports have surfaced taxiways, and the surfacing material used is nearly always gravel, or else road oil worked into the soil. There are a few exceptions, however, such as the St. Paul municipal airport, whose taxiways are of asphalt.

Specially prepared areas in front of hangar entrances are highly desirable. They facilitate the handling of planes, and when the weather is favorable they provide a convenient place to make repairs. Commonly called aprons, they are found at the vast majority of airports. Concrete aprons are in general favor at the busier fields, far exceeding asphalt and macadam in popularity, while gravel and other low-type surfaces are the rule elsewhere.

NIGHT LIGHTING

The importance of adequate night lighting for airports is receiving constantly increasing recognition. Air transport companies, carrying passengers and mail over vast stretches of country, find it absolutely necessary to operate by night as well as by day, so they naturally select well-lighted fields as their stopping points and terminals. Those ports which have no night lighting or have unsatisfactory lighting equipment are badly handicapped in the race for aeronautical supremacy. They might fairly be compared to railroads without night signaling facilities. Every one knows that railroads so ill-equipped could not meet the transportation requirements of the present day.

Despite the growing interest in the whole subject of night lighting, very few American airports can yet meet the lighting requirements established by the Department of Commerce for the highest rating. At least half of the

principal ports in the cities of Group IV have no night lighting facilities whatever, and in Group III about one third are equally undeveloped. The chief flying fields which serve the cities of Groups I and II have night lighting equipment of some sort in nearly all cases, but as a rule it falls considerably below Federal standards. There are no boundary lights, a ceiling projector is lacking, or the beacon fails to meet specifications. But gradually, as new equipment is added and defects are remedied, the night lighting systems of the larger and busier ports are beginning to approach the point where they may fairly be called adequate.

BEACON LIGHTS

In establishing standards, the Aeronautics Branch not only requires a beacon light at every rated port, but specifies the characteristics which it must possess. It must have at least one hundred thousand candle power, and must be so directed as to be visible all around the horizon, and to the zenith, for altitudes of from five hundred to two thousand feet. It must possess some distinctive feature which will enable pilots to identify it with assurance. If a flashing beacon, identification can best be accomplished by giving it a definite Morse code characteristic; if a rotating beacon, an auxiliary light distinctively colored may be desirable. At the Cleveland municipal airport, for example, auxiliary red lights give to the beacon's beam a red hue that is unmistakable. The Federal regulations leave a good deal of leeway with regard to beacons; they permit the use of "apparatus having characteristics other than . . . specified, but of equivalent effectiveness."⁴⁷

The vast majority of airport beacons

⁴⁷ "Airport Rating Regulations," *Aeronautics Bulletin No. 16*, p. 12.

are very much more powerful than would be necessary to meet minimum Federal requirements. Almost all have two million candle power or more. The two-million-candle-power beacons are by far the most numerous, but there are quite a number of beacons which have eight, ten, or even twelve million candle power. A beacon with half a billion candle power is now planned for one of the airports in the New York metropolitan region. When completed, it will be the most powerful in the United States.

Lighting engineers are fairly well agreed that airport beacons with candle power in excess of two million are unnecessary, and that their chief result is wasted electric current. This is because large increases in intensity produce very slight increases in visibility distance. If we take a two-million-candle-power beacon, and assume a clear night which will permit it to be seen for seventy miles, we should naturally assume that by increasing the candle power of the light to eight million we could at the same time increase the range of the light to four times seventy miles. Instead, the effect of our change in candle power would be to lengthen the distance at which the light could be seen by only four miles.⁴⁸ It is small wonder that airports are beginning to accept the two-million-candle-power beacon as standard.

One of the chief problems connected with airport beacons is to distinguish them from the advertising beacons found atop many hotels and office buildings in the larger cities. At best, the lights of a great metropolis present a confusing picture to the air traveler, and when they include a number of powerful searchlights with which the airport beacon must compete, the re-

sulting confusion may be serious. The transport pilots, flying night after night over the same routes, are not likely to have any difficulty in reaching their exact destination; but less experienced fliers may find it considerably more difficult to distinguish between store or hotel searchlights and the airport beacon.

That this danger really exists, and is not merely a fantastic notion, is shown by the attitude of those most familiar with the problem. The representative of one of the great electrical manufacturing companies, which produces beacon lights, recently condemned the use of advertising beacons, and suggested that they be abolished altogether in the interest of safer aviation.⁴⁹

BOUNDARY LIGHTS

Most of the busier airports have boundary lights, though in some cases these lights are merely lanterns placed around the edges of the field. The ports of the smaller cities commonly omit boundary lights altogether. Department of Commerce regulations, it will be remembered, specify white or yellow lights as boundary markers,⁵⁰ and as a result, white or yellow lights are almost invariably used. At two or three ports, however, the boundary lights are red, making them practically valueless for pilots unfamiliar with local conditions, who naturally regard red as a danger signal.

In order to meet Federal standards, boundary lights must be spaced "not more than three hundred feet apart." As so often happens, the maximum

⁴⁹ See L. C. Porter's remarks at the Cleveland Airport Conference, reported in *Air Transportation*, pp. 33-34, May 17, 1929.

⁵⁰ See p. 241. There are, however, exceptions to the statement that boundary lights must be of white or yellow. As already pointed out, Federal regulations provide that green lights shall be used in the boundaries to indicate the best approaches.

⁴⁸ Porter, L. C., "Controlling the Effectiveness of Airway Beacons," *Airports*, p. 26, June, 1929.

distance permitted has become accepted practice; three-hundred-foot spacings are almost the universal rule. There are a few exceptions, such as Los Angeles' Grand Central Air Terminal, with spacings of two hundred and fifty feet, and Newark's municipal airport, which has its boundary lights only one hundred and fifty feet apart; but these exceptions merely serve to emphasize the widespread use of three-hundred-foot spacings.

Many lighting engineers regret that the Department of Commerce did not specify boundary lights at shorter intervals, thus encouraging the adoption of higher standards of illumination; for they believe that three-hundred-foot spacings are too great to produce satisfactory results. When lighted streets or highways parallel the edges of an airport, their brighter and more closely spaced lighting units make the airport's boundary lights very difficult to locate at any considerable height. Closer spacings are necessary for visibility—perhaps one hundred or one hundred and twenty-five feet. In addition, it may be desirable to modify Federal regulations so as to encourage the use of distinctive colors other than white or yellow in order that all possibility of confusing boundary lights with parallel street lamps may be avoided.⁵¹

FIELD FLOODLIGHTING

With regard to field floodlighting, American and European practices are in sharp contrast. At American airports it is customary, though not the invariable practice, to have all the lights directed from a single source, thus confining the glare to one direction. European ports, on the other hand, generally rely on lower powered

units distributed at many points around the field boundaries.

The American plan is based on the direction of the least frequent winds, so that most of the time, arriving pilots, as they head into the wind, will land over the light source, and avoid the glare. The chief trouble with this scheme is that the direction of the least frequent winds may be the very direction from which the wind happens to be blowing at the exact moment some night pilot wishes to land, making it necessary for him to land directly into the light. The other defect of a concentrated light source is its tendency to transform small, inoffensive objects into long, shadowy figures sprawled across the surface of the field. Slight depressions appear as yawning caverns of darkness.

The distributed, or European system is not free from faults, however. While it eliminates excessive glare from any one direction, it produces a slight amount of glare from *all* directions. It assures the pilot that he will never be entirely blinded by a bright floodlight while making a landing, but at the same time gives him the less comforting assurance that one or more lights will always be shining into his eyes, regardless of the direction of the wind.

Probably the best plan, under normal circumstances, is to have a centralized light source of high intensity, with one or more supplementary units placed at different points in the boundary, ready to take the place of the main unit when the wind is blowing from an infrequent direction. Such an arrangement has already been adopted by a few ports, but its widespread use need not be expected for some time to come, because of the rather high cost of the necessary equipment.

The regulations of the Department of Commerce do not give preference to any system of field floodlighting, but

⁵¹ See Wietz, C. E., "Looking Ahead in Airport Lighting Development," *Aviation*, p. 1103, Dec. 7, 1920.

merely specify that the system adopted by any rated airport "shall be sufficiently elaborate or flexible to permit landing under all conditions of wind direction without the necessity of landing directly toward the light source." If a single unit is used, however, an automatic lamp changer must be provided, so as to bring a new lamp into position immediately in case of lamp failure.⁵² Whatever the floodlighting system, it must provide

sufficient intensity of illumination to reveal the details of the surface and make depth perception readily possible from a minimum altitude of thirty feet in the center of the lighted area. The minimum vertical plane intensity of illumination over the usable portion of the landing area shall be not less than 0.15 foot candle.⁵³

IS THE FEDERAL STANDARD ADEQUATE?

Realizing that most airports which seek Federal ratings will go very little beyond the required minimum in any respect, some lighting engineers contend that the Department of Commerce should specify a much greater intensity of illumination. They compare the night lighting of flying fields with the night lighting of tennis courts, swimming pools, football fields, and skating rinks, and show that the average intensity is very much greater for outdoor after-dark recreation than the Federal minimum for airport field floodlighting. From this they conclude that the Federal standard is unreasonably low. As one writer puts it, after making a survey of fifty-nine outdoor night activities, and finding an average of 5.4 foot candles:

Compare this with what we are using on our landing fields to handle ships costing

⁵² An automatic lamp changer need not be provided, however, if there is an auxiliary unit of sufficient intensity, nor if the single unit is a high-intensity arc, operated by a competent attendant.

⁵³ *Aeronautics Bulletin No. 16*, p. 16.

thousands of dollars and involving human life. The Department of Commerce requires 0.15 foot candles for an "A1A" rating—only three times the intensity of full moonlight. To meet this requirement projector units of about 20 KW. capacity are used on average fields. These produce lighting that would be roughly the equivalent of the light obtained from a single candle set in the center of a room twenty feet square. Go home and try it, if you think this is adequate lighting for safety!⁵⁴

Of course, any comparison between the night lighting of tennis courts and the night lighting of flying fields is totally irrelevant. The amount of illumination required to light a tennis court properly would be not only unnecessary, but positively dangerous, if used for an airport floodlighting system. Arriving pilots would find its dazzling brightness very objectionable. It may be that the Federal minimum should be increased somewhat, though even that point seems to be debatable;⁵⁵ but certainly, excessive illumination is to be avoided.

MOUNTING OF FLOODLIGHTS

The early floodlights used for landing areas were nearly always mounted at a considerable height, their beams being directed downward at sharp angles. This method of mounting soon proved unsatisfactory, however. Pilots landing over the light source were troubled with the shadows of their planes while still at a considerable height, and pilots heading toward the light were almost blinded by the glare. So changes were gradually made, with the result that today, nearly all airport landing floodlights are mounted only

⁵⁴ Porter, L. C., "Thirty Cent Protection for a Million Dollar Ship," *Aviation*, p. 942, May 10, 1930. See also Young, D. C., "Suggestions for Airport Lighting," *Airway Age*, p. 292, March, 1929.

⁵⁵ See Blakeslee, Major D. W., "Lighting of Hangars," *Aero Digest*, p. 100, Aug., 1929.

six or eight feet above the ground, with their beams parallel to the field surface. Federal rules specify that "units shall be mounted as low as possible consistent with the contour of the landing area."

Field floodlight systems are less common than beacons. Nevertheless, a majority of the principal ports in Groups I and II—the cities with populations of three hundred thousand and over—have more or less effective means of lighting their landing areas. In two or three instances the beacon is used as a field floodlight when necessary. Most of the airports of the smaller communities—even the more important fields—have no lighting systems for their landing areas.

Gas-filled incandescent lamps are generally used for field floodlighting, but arc lights can be used for this purpose very effectively. At the Curtiss-Chicago airport, one of Chicago's commercial flying fields, the main unit of a three-unit system is an arc light of five million candle power. As the carbons approach the point where they require replacement, a ringing bell notifies the attendant. In addition, an automatic switching panel turns on the auxiliary units in case of any failure of the main light, so that the danger of trouble at a crucial moment is very remote indeed. A number of other airports also have arc light installations.

AIRPORT BUILDINGS

The large majority of persons who visit an airport, knowing little or nothing about such technical matters as night lighting or drainage, are very likely to judge the port's importance by the number, the size, and the character of its buildings. As a rule they are not greatly impressed; and small wonder, for most airports are still trying to get along with structures

which, though far from adequate at the time they were built, are even less suited to present needs. In the words of one of America's leading airport architects:⁵⁶

We have today almost no airport buildings that will be standing five years from now. With notably few exceptions we have no really permanent structures, and our makeshifts will soon fall into disuse through rapid deterioration and obsolescence. . . . Millions of dollars have already been invested in temporary shelters, buildings, and hangars that cannot under any circumstances fulfill the requirements of the industry, nor provide for expansion even in the immediate future.

Of course, there are some exceptions. The Los Angeles municipal airport has buildings that would do credit to the business sections of most cities. At the terminal field of Western Air Express, in Los Angeles, is a newly erected steel and concrete hangar, in the shape of a hexagon—a Hexhangar, as it is called—which brings one and one-half acres of floor space under a single roof.⁵⁷ Buffalo follows the example of a number of cities in making all its airport's buildings of uniform construction, thus creating an impression of careful planning. But most airport structures are totally unsuited to the needs of rapidly expanding air traffic.

HANGARS

First to be built are the hangars. Other structures, such as administration buildings and repair bases, are rapidly becoming common-places at the busiest fields; but any airport which is to meet the needs of commercial

⁵⁶ Franzheim, Kenneth, addressing the Airport Conference of the American Road Builders' Association at Washington, Oct. 24, 1929. The American Road Builders' Association distributes mimeographed copies of this address on request.

⁵⁷ McReynolds, Charles F., "One and One-Half Acres of Hangar Floor Space under One Roof," *Aviation*, p. 556, Sept. 14, 1929.

aviation *must* have at least one hangar of substantial proportions, and of fire-resisting construction. Federal rating regulations, it will be remembered,⁵⁸ prescribe as a minimum

one hangar measuring not less than eighty by one hundred feet in the clear inside with doors open, with eighteen-foot overhead clearance, and with a door opening of at least eighty feet in the clear. In localities where freezing temperatures are experienced the hangar shall be heated sufficiently to prevent freezing of water, and safe provision shall be made for heating water and oil.

There are only four or five American cities of over fifty thousand population whose airports have no hangars, and many a busy port has as many as five or six. Sixteen hangars have been built at the Chicago municipal airport; Cleveland's port has twelve; and the newly combined Roosevelt Field (New York) has sixty hangars and other buildings.

Quite commonly, however, airport hangars fail to meet minimum Department of Commerce regulations as to floor space and overhead clearance. Considering only the principal field of each city, and only the largest hangar on each field, the *average* floor space per hangar is well over the Federal minimum of eight thousand square feet, for every group except Group IV. But this average is obtained by adding together a great diversity of floor areas, ranging all the way from less than five thousand square feet to more than thirty thousand at the ports of the largest cities (Group I), with equally wide differences in the other groups.

The stipulation that overhead clearances must be at least eighteen feet is generally disregarded, and clearances of ten to sixteen feet are usually found instead. There are, however, some exceptions. The principal airports of

one fourth of the one hundred and eight cities included in this study have hangars with clearances ranging from eighteen to twenty-eight feet. At the Detroit municipal airport the doors of the massive hangar are now twenty-five feet high, and provision has been made for increasing their height to thirty feet when necessary.

HANGAR CONSTRUCTION

Federal rating regulations do not require hangars to be of fire-resisting construction. This is unfortunate, for the contents of hangars are usually combustible, and the operations often carried on within their walls create a special fire hazard. Despite the absence of Federal pressure, however, fire-resisting materials have been quite widely adopted for airport hangars. Steel is in most general use, but brick is found at many ports, while concrete, cinder block, and stucco-covered tile are occasionally used. Steel and brick make a very popular combination; steel and concrete are used together less commonly.

About thirty per cent of the hangars considered in this paper—which means the hangars of very nearly all airports serving cities with populations in excess of fifty thousand—are made of wood. If we consider only the principal port of each city, the percentage drops to twenty. Two or three years ago the percentage of wood construction was very much higher than at present, and in another two or three years many of the frame hangars now in service will doubtless be replaced with structures of steel or brick. At the more important fields of the Group I cities, wooden hangars have already passed completely out of the picture, except in one or two instances, and even in Group II they are very scarce. For the most part, therefore, they are confined to the ports of the smaller cities.

⁵⁸ See p. 240.

Eventually, Federal regulations, excessive insurance rates, or the demands of plane owners—perhaps all three—will compel the abandonment of all wooden structures at the ports.

Many people suppose that an airplane hangar is nothing more than an overgrown garage. As a matter of fact, hangar construction creates a number of special problems which merit far more consideration than they have thus far received. Every hangar should be properly placed with respect to other structures, taxiways, and prevailing winds. It should have large, clear spans, without posts or other obstructions. There should be adequate window space, and a satisfactory system of night lighting.

Full-width door openings at either or both ends or at the sides are essential to the proper handling of planes. The doors cannot be permitted to swing outward, because of the virtual impossibility of operating them when high winds are blowing, nor inward, because of the valuable floor space they consume. So resort must be had to rolling, sliding, or cantilever doors, which occupy a minimum amount of space and are unaffected by winds. The main doors of large hangars are frequently motorized, and can be opened or closed in a few seconds by electric power.

HEATING OF HANGARS

Although Federal regulations concerning the heating of hangars specify only a minimum temperature sufficient to keep water from freezing, higher temperatures are commonly maintained in the hangars of the busier and more important airports. Fifty-five degrees Fahrenheit is usually considered satisfactory. To keep an even temperature of fifty-five degrees in a large hangar during extremely cold weather is no easy task, however.

The doors, which are necessarily very large, commonly face the prevailing wind, and when they are left open for some time to permit the entrance and the exit of several planes, the temperature of the hangar is likely to drop with startling rapidity. A large heat reserve is therefore necessary.

The problem of heating is further complicated by high ceilings. Because hot air has a tendency to rise, the heat is usually in the upper part of the hangar instead of near the floor, where it is most needed. At most airports each hangar is heated separately; but central plant heat, designed to serve all the buildings at the port, is rapidly coming into favor. Care must be taken to locate the central heating plant at some distance from the flying area, so that the smokestack will not be an additional hazard.

Every important airport finds it necessary to set aside some space for offices and for the accommodation of the public. The port manager must have an office, and office space must be provided for the representatives of the transport companies which use the field. In addition, there should be ticket and information offices, waiting and rest rooms, baggage, express, mail, and check rooms. A telegraph office and a meteorological room are highly desirable. At some of the larger fields are found club rooms for pilots, and newspaper press rooms. There should be a restaurant, a barber shop, and stands for the sale of newspapers, magazines, cigars, and candy. If the field is an official port of entry, customs and immigration offices must also be provided.

ADMINISTRATION BUILDINGS

Some of these services, though rarely all, are found at nearly all fields. Space for them is most frequently found in a lean-to on one of the hangars;

but many a large airport has recently constructed a separate administration or terminal building, and it seems very probable that in time such a building will be regarded as an absolute necessity at every busy port. Very often the administration building is merely a small frame structure, as at the Long Beach municipal airport or the airport of Milwaukee County; sometimes, however, it is quite an imposing edifice of brick or steel, two or more stories in height. Cleveland airport's administration building cost nearly one hundred thousand dollars, and the elaborate administration building at the Fairfax Airport (Kansas City, Kansas) required an expenditure of more than two hundred thousand dollars.

It is very important that the airport manager, or the person in charge of field operations, have an unobstructed view of the flying field at all times. One way to provide such a view is to put a large bay window in the manager's office, and sometimes this is done. A much better plan, however, is to put a glass-inclosed control tower atop one of the hangars or the administration building—preferably the latter. At least forty-five airports, and probably a number of others, now have such towers. The Los Angeles Metropolitan Airport has a separate control building, five stories in height, and the tower at Glendale rises four stories above the two-story terminal building.

REPAIR SHOPS

Every year, as the volume of airplane traffic increases, the problem of repairs assumes more serious proportions. In the early days of aviation there were virtually no well-equipped repair shops at the flying fields, and damaged parts had to be sent back to the factory for repair. But manufacturers are tiring of this service, and plane owners are

becoming increasingly impatient of the long delays which factory repairs entail. The busier and more progressive airports, therefore, are now installing elaborate equipment for repairing and overhauling planes and motors. Nearly all ports have some repair facilities and some spare parts, but in most cases the facilities are very meager and the parts very few. Repairs are generally made in the hangars beside the planes, or in hangar wings which have been converted into workshops. At some two dozen important fields, however, separate repair buildings have been built. These buildings are very similar in design to airplane factories, and carry the equipment necessary for virtually every factory operation.

It is very important that the dope and paint shop be housed in a separate building, in order to reduce the fire hazard. Moreover, this building should be at least one hundred and fifty feet from any other structure, in order to comply with the request of the Board of Fire Underwriters. "Doping" is the process of spraying a liquid on the wings of an airplane, in order to make them taut. The substance used in this operation is highly volatile, and the danger of explosion is great. When proper precautions are taken, the doors and windows of the dope shop are so installed that they will blow out at the slightest explosion. Elaborate artificial ventilation protects the lungs of workers. All electric switches are sealed tight.⁵⁹

In addition to the buildings already described, a large number of miscellaneous structures are found at the airports of American cities. At some fields there are separate restaurant buildings and comfort stations, usually because administration headquarters have not yet been built. The Oakland

⁵⁹ Franzheim, Kenneth, *op. cit.*

municipal airport has a small hotel.⁶⁰ Class and laboratory rooms and dormitories serve the needs of flying schools at forty ports or more. A few airports have boiler houses, motor generator houses, fire and ambulance houses.

BUILDINGS SHOULD BE TO LEEWARD

Most persons who have given careful thought to airport planning are agreed that the buildings of an airport—at least, the repair shop, the hangars, and the administration building—should be grouped along the leeward side of the field, in order to permit planes to leave for flight after a minimum of ground travel.⁶¹ When the buildings are to windward, a plane must taxi the entire length of the field and then turn before it is in proper position for its take off run, unless, of course, the wind happens to be blowing from some other direction at the moment.

So much ground travel is highly undesirable, because it raises misgivings in the minds of passengers who are going aloft for the first time. These men and women are usually nervous, and not quite certain that they have done wisely in trusting their lives to an airplane pilot. When they take their assigned seats in the plane, and watch it travel swiftly from the administration building or the hangar to the far edge of the field without leaving the ground, they are very likely to conclude that something is wrong and that the plane is unable to rise. Under such circumstances, women frequently become hysterical. It must be confessed that their fear is quite natural, for they cannot be expected to know the principles of aviation—not even the elementary rule that a plane must take off into the wind.

⁶⁰ See p. 270.

⁶¹ There are some few architects, however, who contend that all buildings should be placed in the center of the field.

Of course, the need for ground travel is not eliminated by placing the buildings to leeward. It is simply postponed until the end of the journey. After a plane has completed its landing run, it must turn and taxi to the place where the passengers are to be discharged. But by that time the passengers have probably lost their fear. They have been aloft, perhaps for several hours, and have landed in safety; they have experienced a new thrill to compensate for anxious moments; and, most important of all, they can readily comprehend the pilot's motives as he taxies them to the administration building or the hangar.

The buildings have been placed to leeward at two thirds of the airports included in this study. The other ports have their buildings to windward, or else scattered along two or even three sides of the areas set aside for flying operations. In this respect there seems to be no difference between the more important and the less important ports, or between groups of cities. The proportion of fields with buildings to leeward is about the same for every type of field and for every group. This is surprising, for one would naturally suppose that the large, well-equipped ports, representing investments of hundreds of thousands of dollars and in some cases even millions, would be planned with considerable care, so that all buildings would be grouped to leeward as a matter of course.

GASOLINE AND OIL

Practically all airports, at least those which serve cities with populations in excess of fifty thousand, have regular supplies of gasoline and oil. There are several different types of fueling equipment in general use. One of these is the ordinary automobile service

pump, formerly found at a great many fields but now being abandoned rather rapidly because it is obviously a makeshift, unsuited to the needs of aviation. Planes cannot conveniently be maneuvered into the proper position, and there is always the danger of hitting the pump standards.

Far more satisfactory, in fact the best type of equipment yet devised for most ports, is the underground pit system. The gasoline is kept in tanks beneath the surface of the field and is pumped to convenient outlets. Each outlet, or pit, is a box set flush with the field surface, containing a hose and a meter. The hose is usually on a reel and is sufficiently long to permit planes to be fueled at some distance from the pit. A number of the busier ports have found it necessary to supplement their underground pit systems with portable tanks and pumps on trucks. These trucks are especially useful in servicing the large, trimotored airplanes.⁶²

FIRE-FIGHTING EQUIPMENT

It has already been pointed out⁶³ that the danger of fire is very great at airports. Inflammable substances, such as gasoline, oil, dope, and lacquer, are usually stored in large quantities. The airplanes, most of them still constructed of wood and fabric, will burn readily. Yet, a few ports, mostly unimportant, have no fire-fighting apparatus of any kind, while the majority, including some of the chief fields of the larger cities, rely solely on hand extinguishers. Now, a hand extinguisher can be very effective, provided it is used at close range within a few seconds after the breaking out of a fire; but after the flames have gained some

headway, resort must be had to more powerful equipment.

Fire protection should first be considered while the airport is still under construction. Provision should be made for water mains and hydrants, sprinkler systems in the buildings, and chemical carts. Only a scattered handful of the busier American airports now have water mains and hydrants, and sprinkler systems are equally scarce. About forty-five or fifty ports include chemical carts or tank wagons in their equipment. Whatever other fire-fighting facilities are provided, it is essential to have some apparatus of the foam type. Firefoam results from the reactions between solutions of aluminum sulphate and bicarbonate of soda with a foaming agent. It is both smothering and cooling in its effect. Nothing can equal its effectiveness in extinguishing gasoline and oil fires.

Nearly all airports, except those in the cities of Group IV, have some sort of first-aid equipment. As a rule, however, this equipment falls below the minimum standards prescribed by Federal rating regulations. Usually it is limited to a first-aid kit. While some ports have elaborate restaurants, where high-grade food is served, the majority of them do not have even lunch stands. Regular sleeping quarters for pilots or passengers are seldom provided, even at the larger fields. Practically every port has a telephone, but telegraph instruments are surprisingly rare.

RADIO AT THE AIRPORT

Surprisingly rare, also, are radio receiving sets, though it may fairly be supposed that they will become more numerous as radio makes itself increasingly essential to the successful commercial operation of air craft. The most obvious use of radio at an airport is for the reception of weather information from various sources,

⁶² See Wallace, W. J., "The Fueling System at the Detroit City Airport," *Airports*, pp. 25-26, Dec., 1929; Black, Archibald, "Civil Airports and Airways," pp. 90-93.

⁶³ See p. 257.

chiefly from Department of Commerce airways broadcasting stations. These stations do not yet cover the entire country in a close network, but it is virtually certain that they will do so before long.

Transmitting as well as receiving apparatus has been installed at a few ports, so that two-way communication can be carried on between these ports and properly equipped airplanes. Pilots provided with two-way communication are not entirely dependent on the information given them before flight. During the course of their journeys they may be warned of approaching storms, and ordered to take alternative routes or land at other fields. Two-way radio not only gives an additional margin of safety, but also provides a very convenient service which is welcomed by passengers. During the stock market crash of 1929 many passengers aboard the planes of one of the larger transport companies sent radio messages to their brokers, and received replies before landing.⁶⁴

Radio is likely to be of greatest service to aviation, however, by making possible "blind flying" through all kinds of weather. Fog has long been the dreaded foe of commercial pilots, who are expected to maintain regular day and night schedules, regardless of weather conditions. But fog flying is becoming less hazardous every month, through the development of new types of radio equipment. The radio beacon enables the pilot of a properly equipped plane to fly directly toward his destination, even though dense fog may completely obscure his vision.

A new radio device, still in the experimental stage, makes possible safe landings on unseen fields. Guided by such a device, Lieutenant James H.

⁶⁴ Everett, G. E., "T. A. T.—Maddux Two-Way Radio Communication," *Aviation*, p. 754, April 12, 1930.

Doolittle took off from Mitchell Field, and, though the cockpit of his plane was completely covered so as to shut off his view, succeeded in landing a short distance from his starting point after flying some distance from the airport. That was in September, 1929, and since then the Bureau of Standards has been at work on another radio apparatus intended to give more satisfactory results than the device used by Doolittle.

WEATHER EQUIPMENT

Practically every American airport of any importance has some weather equipment, but in most cases the equipment is far from adequate. To make matters worse, the man in charge of weather instruments is seldom a trained meteorologist, so that the service furnished to pilots is quite likely to be crude and inaccurate. At forty or more of the largest airports, however, United States Weather Bureau representatives are now stationed. The Federal Government furnishes the instruments and the personnel, in order to insure a nation-wide standardized weather service. Airport authorities are asked only to furnish available quarters.

AIR TRAFFIC CONTROL

Forty-five or fifty of the busier airports have so many planes landing and taking off during rush hours that some sort of air traffic control is a necessity. Usually, this control is by means of flags. At the Chicago municipal airport, for example, a member of the city's traffic force who has been assigned to the task is on the field during the busy parts of the day, and signals to planes which are about to take off by means of two flags—one red and the other black and white checkered.

There is a startling lack of uniformity at the several ports where

flagging systems have been established. Red and green; red, white, and green; red and white; red, white, and checkered—all these color combinations are used in addition to Chicago's red and checkered. Such diversity is unfortunate, for it tends to confuse pilots who are unfamiliar with local regulations. The white flag, especially, is a cause of uncertainty. At some ports it means a clear field; at others it is a command to land at once; while at still other ports it indicates that instructions are about to be given. More complicated control systems are now in operation at a few airports. Oakland's municipal field has a powerful siren. Signal lights have been installed at four or five ports, but are still in the experimental stage.

This chapter has been devoted entirely to airports for landplanes. The needs of seaplanes, and of lighter-than-air craft, have been completely ignored, and will be ignored throughout this study, because they play no part in the airport plans of the overwhelming majority of American cities. The very few ports, such as the Oakland airport and Floyd Bennett Field (New York), which make provision for the care of seaplanes, are outstanding exceptions. So, too, are Akron and Miami, which have separate dirigible hangars. Within the Akron dirigible hangar—the largest in the world, with doors weighing six hundred tons—will be built the two superairships ordered some time ago by the United States Navy.

CHAPTER IV

AIRPORT OWNERSHIP

ACCORDING to Department of Commerce figures of April 15, 1930, privately owned airports in the United States outnumber municipal fields by about ten per cent.⁶⁵ This statement requires a word of explanation, however. Many of the private ports included in the Federal list are thirty- or forty-acre fields, relying chiefly on flight training, sightseeing trips, or air taxi service for their revenues. They supplement the work of the main ports, public or private, which serve transport aviation; and while they swell the total number of private ports, they actually add very little to the importance of private ownership. It must be remembered that in nearly every case the city-owned field is the chief field of the community.

⁶⁵ *Air Commerce Bulletin*, Vol. 1, No. 20.

PREVALENCE OF MUNICIPAL AIRPORT OWNERSHIP

Seventy-six of the one hundred and eight cities covered by this survey have municipally owned fields, while but thirty-two (thirty per cent of the total) are compelled to rely entirely on private airports. Municipal ownership is most common in the largest cities, and least frequent in the smallest. There seems to be a direct relationship between the size of the city and the prevalence of municipal airport ownership. Even in Group IV, however, sixty-four per cent of the cities own their airports.

Municipal ownership and operation usually go together, but there are some exceptions. A few cities merely retain title to the land, or to the land and buildings, leasing their ports to private operating companies. San Francisco

reverses this process. Mills Field, the municipal airport, is leased from the Ogden Mills Estate, and operated by city employees, though the city is negotiating for the purchase of the property. In the overwhelming majority of cases, however, public ownership means public operation.

The wisdom of public ownership and operation of utilities is a much debated question. For the most part, however, the debate centers around a few utilities—gas and electric plants, telegraph and telephone lines, and transportation facilities. Nearly every one assumes that the city will pave the streets and manage the water works. In like manner, though to a less degree, most people seem to take municipal ownership and operation of the airport for granted. Very few cries of "socialistic!" and "un-American!" are heard when cities go directly into the business of supplying the ground needs of aviation.

Yet, a great many cities do far more than merely to provide the necessary land and the minimum lighting facilities. Often they construct the hangars and operate them, instead of waiting for private initiative to assume the task. There are a considerable number of municipal repair shops, and in many cases gas and oil are sold directly by the city instead of by a concessionaire. At more than one municipal airport the field management operates an airplane sightseeing service.⁶⁶

OBJECTIONS TO MUNICIPAL OWNERSHIP

Of course, there are some who object to this recent expansion of municipal activities, and though they are apparently in the minority—without doubt they are less vocal than the friends of municipal airport ownership—at least they are entitled to respectful attention. Their opposition, it seems, cen-

⁶⁶ *Aviation*, p. 584, March 22, 1930.

ters chiefly around the question of airport finances, and their argument is always fundamentally the same, with occasional variations. They say:

Except in a few rare instances, airports are losing money. Sometimes they do not even meet operating expenses, and scarcely ever can they produce sufficient revenue to pay both operating and depreciation charges. As for sinking fund payments and profits, these must usually be forgotten altogether.

Starting with this assumption that airports are practically certain to be financially unprofitable, at least for some time to come, it can be urged quite plausibly that cities should keep clear of airport ventures for the very good reason that they should avoid *all* entangling alliances with potentially unprofitable or highly doubtful undertakings. City tax rates are already so high as to produce vehement protests from taxpayers. City debts are very large, and are likely to become larger. The cost of government is so great that it is burdensome. Perhaps the burden cannot be lightened, but at least it should not be increased except for enterprises which are absolutely essential to the welfare of the people.

So runs the argument, and those who use it refuse to concede that airports are essential to the public welfare. The city manager of Norfolk recently withheld his approval of a proposed municipal airport, on the ground that "the happiness and contentment of our people is a far more valuable consideration than the establishment of an airport, which, if not self-supporting, will require a material increase in the tax rate."⁶⁷

Should the development of aviation eventually bring such prosperity to airports as to make most of them profitable undertakings, it might reasonably

⁶⁷ *Report of the manager to the Norfolk City Council*, Feb. 14, 1930.

be supposed that those who now object to municipal ownership as a losing proposition would then welcome it as an opportunity to strengthen municipal finances. Instead, however, they would probably point to airport profits as proof that municipal ownership and operation were unnecessary. As one speaker told the Regional Conference of the Airport Section, Aeronautical Chamber of Commerce, in 1929: "If an airport can make money, there is not much in the future of the government airport."⁶⁸

ARGUMENTS FOR MUNICIPAL OWNERSHIP

The statement that most airports are not paying ventures is probably correct,⁶⁹ but can be interpreted in a number of different ways. While some persons choose to regard it as a clinching argument against municipal airport ownership, others consider it clear proof that municipal ownership is necessary. They contend:

Every community must have an airport, if it is to have a share in the rapidly expanding commerce of the skies. It needs an airport today for exactly the same reason that it first needed a railroad station sixty or seventy years ago. And if the aviation industry is unable to handle the heavy burden of furnishing ground facilities which cannot be expected to pay for themselves in the immediate future, then cities must assume the responsibility.

Modern airports, municipally owned and managed, serving the needs of planes and pilots at a considerable cost to the taxpayers, are urban America's contribution to the development of air commerce. They are, quite frankly, a subsidy to the aviation industry, and on that account are regarded with disfavor by those who expect every business to stand on its own feet. But is

there any reason why the aviation industry should not be subsidized? The railroads of this country received more than one hundred million acres of public land during the period of their early expansion. Years ago, most European countries adopted the policy of subsidizing the large air transport companies quite heavily, with the result that commercial aviation had developed astonishingly in Europe before it passed the experimental stage in the United States.

One very good reason for municipal ownership is that it provides a reasonable assurance of fair treatment for everyone using the field. Private owners may agree to treat all lessees and users alike; but in actual practice, such assurances may prove to be worth little or nothing. "Experience has demonstrated that the company owning the landing field and hangars will serve itself first, and let rivals wait until service is entirely convenient with the port managers," declares the city manager of Fort Worth.⁷⁰ If the field is owned by a transport company, as often happens under private ownership, the danger of unreasonable discrimination is serious.

Perhaps the strongest argument in favor of municipal ownership, though in this case municipal operation is not involved, is that the airport land must be kept in public hands in order to prevent its diversion to other uses. The private owner of an airport, like most private owners, is in business to make money. If his land becomes more valuable for store, factory, or apartment house sites than for airport purposes, he is likely to sell. And so the only really desirable airport site in the community must be sacrificed.

⁶⁸ Carr, O. E., "The City Goes into Business," *Airports*, p. 17, March, 1930. See also Boone, Andrew R., "Location and Ownership of Airports," *Aviation*, p. 878 et seq., March 23, 1929.

⁶⁹ *Airports*, p. 43, Nov., 1929.

⁷⁰ See p. 267.

Enough has been said in preceding chapters to show that very few conveniently located tracts of land possess the necessary physical characteristics of an airport. When a city finds a suitable plot of ground, therefore, close to the heart of the business district, it should make certain that the tract is not turned over to real estate operators, to be cut up into subdivisions. The only way it can be quite sure is to exercise its power of eminent domain, and convert the land into a municipal airport.

WHAT BRANCH OF THE CITY GOVERNMENT SHOULD CONTROL?

If the airport is to be operated directly by city employees, and not leased to private interests, a decision must be reached as to which branch of the government shall have charge of the new project. At first thought it might seem best to create a separate airport board or commission, or a department of *aéronautics* whose head would be entirely independent of the other city departments, and responsible directly to the mayor or manager.

There is little doubt that the airport would receive more attention from those high in authority, and probably larger appropriations as well, if it were managed by an airport commission instead of some existing agency of the city government—perhaps the department of public works or the department of welfare. For the director of public works and the director of welfare, like all department heads, already have serious problems which must be solved, and time-consuming routine duties which must be performed. To them, the airport would be nothing more than an additional assignment—an unwelcome assignment, in all probability. It would receive only such time and attention as could be spared from their other duties.

But there is another side to the story. The argument which can be used so plausibly to justify a separate airport commission or director of aviation can be used quite as forcefully to prove the necessity for an independent board of dog catchers or a commissioner of street cleaning.

In city government, as in the governments of state and Nation, the problem is not only to provide new services as they become necessary, but also to coördinate control over all services, old as well as new. And many people are beginning to realize that coördinated control can be obtained only by assigning all municipal activities to a relatively few departments, so that the mayor or manager may supervise the work of those few departments intelligently. That is why the constant multiplication of governmental agencies is now regarded with some popular disfavor. New services must be undertaken by our cities from time to time; the dynamic nature of modern civilization makes any other course impossible. But as they are added to the list they should be fitted into the existing scheme of administrative organization wherever possible, and not made the excuse for creating needless complexity and needless expense.

In providing administrative control for their airports, most cities have adhered to the principle of concentrated responsibility. While it is true that in some few cases separate agencies have been created, such as the airport commissions of Albany, Miami, and Hartford, and the director of *aéronautics* of Pontiac, yet the large majority of cities have entrusted the management of their flying fields to already existing departments or commissions.

There seems to be no general agreement, however, as to the department best fitted for the task. Some cities prefer the park commission or the su-

perintendent of parks. In Chicago it is the Bureau of Parks, Recreation, and Aviation. Buffalo has a Division of Airport in its Department of Parks. In Minneapolis the Board of Park Commissioners exercises control. Others choose the department of public welfare, as in St. Louis, whose airport commission is headed by the director of public welfare. St. Paul's commissioner of public utilities has been given the job of managing the city's airport, while Portland, Oregon, and Oakland have assigned the duty to their boards of port commissioners.

THE PARK DEPARTMENT HAS A GOOD CLAIM

The vast majority of municipal airports are still in their infancy, so it may be too soon to venture a positive statement as to the city agency best fitted to perform the task of directing their activities. Every one will agree, however, that if an existing department is to be placed in charge, it should be the department whose pres-

ent duties most closely resemble those of airport management. On this basis, the park department seems to be the logical choice.

Outside of the strictly technical handling of the special aviation facilities at a developed airport, most of the work to be done in connection with airport development is of a kind which is already being performed by the park authorities. The acquisition of land, the maintenance of large open spaces, usually developed in grass, the construction and maintenance of runways which are so nearly like park roads, the maintenance and operation of lights, and the handling of large crowds of sightseers and spectators—all these are matters which are already being handled by the park authorities, . . . and cannot be equally well handled by any other existing city agency.⁷¹

This statement refers, of course, to airport management, and not to the construction work which must precede field operations. The construction of the airport, like all municipal building programs, should be under the supervision of the department of public works.

CHAPTER V

AIRPORT FINANCES

TO PRESENT a complete and accurate picture of airport finances is extremely difficult—perhaps impossible. Most of the commercial ports are unwilling to make public the amounts of their profits and losses, and while municipally owned fields have no such hesitancy, yet their published statements are nearly always incomplete and quite frequently misleading. There is abundant evidence, however, to support the assertion, made in an earlier chapter,⁷² that most airports are

financially unprofitable. Letters from one hundred and thirty-one ports, sent in reply to the questionnaire of a leading aeronautical magazine, disclosed but eleven ports which even claimed to be making an operating profit, such items as depreciation being omitted.⁷³ That was early in 1930.

When the question of a municipal tion, Oct. 24, 1929. The American Road Builders' Association has mimeographed copies of this report available for distribution. For a contrary view, see the Airport Symposium, *City Planning*, April, 1930, especially the articles by L. H. Weir and Gilmore D. Clarke.

⁷² See p. 265.

⁷³ *Aviation*, p. 584, March 22, 1930.

⁷¹ Grant, U. S., III, "Park Management of Airports," address to the Municipal Airport Conference of the American Road Builders' Associa-

flying field for Norfolk was under consideration in the fall of 1929, the city manager wrote to fourteen cities having approximately the same population as Norfolk, and found but one whose airport was self-supporting. That one, moreover, was able to produce a satisfactory balance sheet only by ignoring the need for a return on capital investment.⁷⁴ "It is probable that no public airport is as yet actually meeting operating expenses, to say nothing of showing a net operating profit,"⁷⁵ according to two painstaking investigators, and this statement could almost certainly be broadened to include nearly all private ports without in any way impairing its accuracy.

INADEQUATE DEPRECIATION RESERVES

There are no standard methods of airport accounting. Items charged to operating expense at one field may be listed as permanent improvements at others. Proper allowances for depreciation have not yet been agreed upon. It is obvious, or certainly ought to be, that large depreciation reserves are needed by airports, because of the rapid changes in the aircraft industry. New methods of plane construction and new standards of plane performance may make today's airport equipment quite valueless tomorrow. Not long ago Croydon Airport, London, found it necessary to discard more than six hundred thousand dollars' worth of equipment which had seemed entirely adequate at the time of its purchase. Yet, a considerable number of American airports—at least thirty, to the author's knowledge, and probably a great many more—make no allowance whatever for depreciation!

⁷⁴ Report of the manager to the Norfolk City Council, Feb. 14, 1930.

⁷⁵ Bullard, J. E., and Lord, Avery E., "Making the Airport Pay for Itself," *Aviation*, Nov. 9, 1929.

There are some airports, especially among the municipally owned group, whose claims to large profits bring them a great deal of favorable publicity, all on the basis of statements so incomplete as to be utterly worthless. Take, as an example, Tulsa's municipal airport. About a year ago the monthly periodical, *Airports*, published the following financial statement from the Tulsa port, heading it with the word "Profitable."⁷⁶

This monthly statement was made public, it was explained, by the assistant manager of the Tulsa port in the hope that it would serve as a source of encouragement to other airports. But what do the figures mean, if anything? Certainly they do not indicate whether the municipal airport at Tulsa is making or losing money. They do not tell the amount set aside for depreciation, so that it is impossible to know whether the depreciation reserve is adequate, or whether it leaves any surplus. Apparently no contingent reserves of any kind are set aside, as for insurance or for injuries and damages to persons and property. Moreover, lacking a knowledge of capital investment, there is no way of deciding whether the net profit is sufficient to yield a reasonable return—assuming, of course, that a net profit actually exists. If the airport managers of the country can find comfort in such a statement, they must be badly in need of encouragement!

SOME FIELDS ARE MAKING PROFITS

A few airports are making genuine, though modest, profits. But their experience is unusual, and in some cases, at least, is due to activities outside the field of airport operations. The newly consolidated Roosevelt Field showed a net profit of about fifty-five hundred dollars at the end of 1929 by including among its revenues

⁷⁶ P. 21, July, 1929.

MONTH OF MAY, 1929

Sales—Gasoline		\$6,787.53
Sales—Oil		355.67
Total Sales		\$7,143.20
Less cost of gasoline and oils		4,052.83
Gross profit on sales		\$3,090.37
Servicing planes, sale of parts, etc.	\$300.28	
Cost of service, parts, supplies	201.61	98.67
Total		\$3,189.04
Other income:		
Income from pilots' quarters		241.50
Income from concessions		43.00
Income from storage and operation		1,170.50
Total gross income		\$4,644.04
Less expenses:		
Salary, night watchman	\$112.00	
Salary, office	430.00	
Labor, hangar and mechanical	486.50	
Auto and truck expense	7.85	
Heat, light and water	72.45	
Stationery and printing	29.90	
Miscellaneous expense, postage	3.00	1,141.70
Net profit before depreciation		\$3,502.34

an item of nearly one hundred and sixteen thousand dollars earned as interest and discount on securities.⁷⁷ Fairfax Airport, Kansas City, Kansas, is now paying dividends on all classes of its stock, as a result of the discovery and the development of natural gas under the field.⁷⁸

The question may well be raised whether the uncertain financial conditions of most airports, public and private, is likely to continue for years to come. No categorical answer can be given, but there are at least two good reasons for believing that the future of airport finances is brighter than the present.

One reason is the growth of aircraft production. Every year since 1924 has witnessed an increase in the number of planes manufactured and the

number of planes in operation.⁷⁹ More planes should mean more business for airports, and an opportunity to reduce those overhead charges which have contributed so heavily to cost of operation.

The other reason for good cheer in the face of disheartening figures is that practically all ports are overlooking at least a few possible sources of income, while most ports are ignoring a great many opportunities to add to their revenues. It may be worth while to examine the long list of income-producing activities at flying fields.

SOURCES OF AIRPORT REVENUES

Hangar rentals, or leases of land on which hangars may be built, constitute the most profitable source of revenue at most airports. Some ports construct the hangars, and then rent hangar space by the day, the month,

⁷⁷ Roosevelt Field, Inc., *First Annual Report*, Dec. 31, 1929.

⁷⁸ *Aëro Digest*, p. 102, Feb., 1930.

⁷⁹ *Aviation*, p. 558, March 22, 1930.

or the year. The more common practice, however, is to lease the land, either with or without such improvements as roads and taxiways, water, gas, and electric connections. Leases are usually made for short periods—five, ten, or fifteen years. Provision is generally made that if the lessee and the airport management cannot agree upon renewal terms at the end of any leasing period, the management will take over the lessee's improvements at a reasonable price.

Of course, there should be at every airport at least one hangar owned and controlled by the airport authorities, whether city or private corporation, so that accommodations can be provided for occasional visitors and also for those operators who use the port more or less regularly, though not often enough to justify them in leasing hangars of their own.

Charges for hangar space are far from uniform. At some ports the minimum daily storage rate is fifty cents, and the maximum, two dollars. At others the variation is from three to eight dollars, based, at least roughly, on the amount of storage space consumed. One would naturally expect to find widely differing charges at different ports, because of the great variations in the quality and the cost of service. At some fields the finest facilities are provided—large hangars of masonry or steel, hard surfaced taxiways and runways, standard night lighting equipment; while at others the provisions are very meager. Land may be worth several dollars an acre, or several thousand; and these differences should be reflected in the cost of hangar space. Most ports, however, have never attempted to base their charges on careful analyses of cost, with the result that charges bear very little relation to the quality of the service furnished.

SOME ADMINISTRATION BUILDINGS ARE MONEY MAKERS

Some airport administration buildings are small structures, just large enough to house the manager and his staff and to provide room for the weather equipment. In many a case, however, the administration building is quite an imposing structure, with floor space that should be rented at a substantial profit. The transport companies operating at the field will almost certainly require office space in this building. Space may be rented for other offices also, as well as for stores and show rooms.

In the administration building of a busy port should be a refreshment and tobacco stand, a bootblack's stand, and a barber shop. These concessions are usually turned over to the highest bidders. The restaurant may also go to a concessionaire, or it may be handled directly by the port management. In the administration building should be quarters for pilots, unless there is a separate hotel. The Airport Inn, a thirty-seven-room hotel constructed at the Oakland Airport at a cost of fifty-five thousand dollars, furnishes about nine per cent of the port's total revenue.⁸⁰ Most of the rooms are occupied by permanent guests.

A profit can readily be obtained from the operation of a repair shop, and also from the sale of spare parts. Lockers and tool boxes can be rented. Vastly more important, however, as a source of revenue, is the sale of gasoline and oil. Two students of airport financing think "there are very good reasons to believe that it will not be many years before a tax of two cents a gallon on all gas sold . . . will yield a revenue at some ports

⁸⁰ Abel, Arthur H., "Making the Money Is the Big Question," *Airports*, p. 20, Jan., 1930.

that will more than pay the operating expenses."⁸¹

Whether the gasoline and oil should be handled directly by the field management or by other persons who pay for the privilege is a debatable question. Some writers are convinced that the result of control by concessionaires will be "lower operating costs . . . and greater revenue," especially at municipal ports. "With gas, oil and grease sold by private companies, the port management is relieved of many business details. All it has to do is to collect the tax per gallon that has been agreed upon."⁸²

The city manager of Fort Worth, on the other hand, believes that direct sale by the field management will yield a greater return. To include other operators is to invite economic waste, in his opinion. The general trend seems to be towards the sale of gasoline and oil by regular oil companies, but there are a great many exceptions. At the Buffalo municipal airport, where fuel and oil are handled through city channels, the sale of these commodities, and also of mechanical parts, is made possible by a five thousand dollar revolving fund. The money taken from the fund is replaced through sales, and some of the profits are used to obtain larger supplies of parts.

PAYMENTS BY TRANSPORT AND OTHER COMPANIES

The transport companies using an airport are commonly required to pay the port management a certain portion of their revenues—so much per pound of mail carried, and so much per passenger. This charge for the privilege of operating from the field is in addition to hangar rentals or office

space.⁸³ Companies furnishing scenic tours, chartered and other special trips, taxi service, and photographic flying pay a fixed percentage of their gross income to the ports at which they base. Sometimes, of course, such special services as sightseeing tours and the like are handled by the port management, which thus secures a direct profit. In a single month, recently, photographic flying produced more than three thousand dollars at Roosevelt Field, and scenic tours yielded more than five thousand.⁸⁴ Flying schools, unless they have their own airports, are a reliable source of revenue for the ports from which they conduct their operations.

In Europe it is a common practice to charge every arriving pilot a small landing fee, but such fees are not popular in the United States. The El Paso municipal airport, which has a fee for night landings, is the only American port to make such a charge. Sometimes, though rarely, a small sum is collected for the use of the field floodlights. This is done at Mills Field (San Francisco).

It is possible for a busy airport to obtain a considerable income by providing ample parking space and charging motorists for its use. One Sunday during the summer of 1929 a mid-Western port earned eight hundred dollars by taking persons on short flights, and twelve thousand by furnishing parking space for the many who wished to see the few fly. Many airports hesitate to use this source of revenue, however, because they fear that operators' customers will be kept away, and that interest in flying will be retarded. For these reasons, also, an admission charge is seldom made,

⁸¹ Bullard, J. E., and Lord, Avery E., "Making the Airport Pay for Itself" (second installment), *Aviation*, Nov. 23, 1929.

⁸² *Ibid.*

⁸³ Some of the larger transport companies, however, have their own flying fields in certain cities.

⁸⁴ Felix, Edgar H., "What a Major Airport Earns," *Aero Digest*, p. 92, July, 1929.

except when air meets or other exhibitions are scheduled.

RECREATIONAL FACILITIES

One way to attract crowds, and thus secure additional revenue, is to provide recreational facilities at or near the airport. Swimming pools, dance pavilions, tennis courts, golf courses, and ice skating rinks are helping to make some of the larger ports popular amusement centers. The city of Montgomery, Alabama, purchased more land than it needed for its flying field, and it plans to develop this tract into a public golf course. At the Dayton Airport, in addition to a golf course, is a children's playground. A trapshooting range adjoins the field. At Central Airport, Camden, the swimming pool accounts for ten per cent of the total income.

If the large majority of airports are to be made self-supporting, it must be

through increased revenues rather than lowered operating costs. While it is doubtless true that more efficient management would reduce certain costs slightly, yet no amount of efficiency can prevent the necessity for large capital outlays and increased operating expenditures at nearly all ports in the near future. Much of the equipment in use at the present time is obsolete; some of it was obsolete when purchased. Buildings are too small, too few, and too flimsy. The field staff is too small, and must inevitably be made larger at most fields as air traffic increases. The introduction of better accounting methods will necessitate adequate reserves. These changes will more than offset any savings that may result from increased operating efficiency. That is not an argument against efficiency, however, but a reason for seeking larger airport revenues.

CHAPTER VI

AIRPORTS OF TO-MORROW

AIRPORT planning is simply one phase of city and regional planning. Airports should be planned for exactly the same reason that highways, parks, and railways should be planned—so that they may best meet the needs of the communities they serve. It should be realized that airports are but a single link in the great chain of air, land, and water commerce, and that all phases of transportation—in fact, all phases of municipal and regional activity—must be coördinated into a smoothly functioning whole.

As yet, this rather obvious need for integration has not been fully appreciated. Many airport sites have been

selected with little or no regard for existing transportation facilities. Many airports have been constructed by enterprising communities without complete knowledge of the plans of neighboring cities. The result has been a lopsided growth, far better than stagnation, but falling short of its maximum possibilities.

Lack of planning is generally reflected in design, as well as in location. Millions of dollars have already been spent on hangars which are really modified garages, rather than buildings carefully adapted to the requirements of aircraft. Additional millions have been invested in sites so small that they



Courtesy of Dallin Aerial Surveys, Philadelphia, and Airports

A general air view of the group of buildings at Central Airport, Camden. The swimming pool is at left center, below the traffic circle. Almost at the exact center are the barbecue stand and one of the miniature golf courses, with ample parking space surrounding them. Across the highway, which is the principal road to Jersey shore points, are the main hangars and shops of the airport. Below the hangars, to the right, are the present administration offices and a restaurant. These offices will be vacated within a few weeks for the new administration building just above the hangars. In the upper right corner is the factory of the Jacobs Aircraft Engine Corporation. A corner of the takeoff strips can be seen, and also the part of the parking line which has been oiled to eliminate dust. Gasoline stations also can be seen at the intersections around the circle.



This is an excellent photograph of the oil-surfaced runways of the United airport at Burbank, California. The Standard Oil Company of California placed four million square feet of oil on these runways

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must almost certainly be discarded before long, or else used solely as auxiliary fields.

A FEW AIRPORTS HAVE BEEN CAREFULLY PLANNED

Of course, there are some examples of careful planning. At St. Louis the new municipal airport is being constructed on the basis of a three-year program. The buildings and the equipment which were absolutely essential for field operations came first; the more elaborate phases of the program are now receiving attention. Single runways accommodate the present traffic without difficulty, but eventually, double runways will probably be built. Floyd Bennett Field (New York) is designed with a view to expansion as needed. As to the co-ordination of airport and other regional growth, a number of regional plans now make careful provision for the acquisition and the development of airport sites.

In a way, airport planning is simpler than most phases of the planning movement, because it has no hoary traditions gathered about it and no century-old mistakes to be corrected. Airports, like every phase of aviation, are a product of the age of planning. The airplane was invented in 1903; the first permanent, official, city planning commission in the United States was created in 1907, by Hartford, Connecticut. Interest in aircraft and airport development has paralleled interest in city and regional planning. It is surprising that the planning movement has not influenced American cities to select and design their airports with greater care. Even yet, however, mistakes can be corrected in most cases with minimum loss. A necessary street widening project may involve the condemnation of stores and office buildings worth millions of dollars, but

the largest sum yet expended by any airport for the purposes of correcting faulty planning is six hundred thousand dollars.⁸⁵

DIFFICULTIES OF AIRPORT PLANNING

On the other hand, airport planning creates some very perplexing problems. Especially difficult is the task of forecasting what the future of aviation will be, and what future airplanes will require in the way of ground facilities. All planning is hazardous, because it involves an element of prophecy. The city or regional planner must estimate future population growth and trends. He must determine, within reasonable limits, the character and the extent of industrial expansion. But he has fairly reliable guides to aid him in making his decisions. He can rely quite safely on past experience to indicate with some degree of accuracy what the future will be. How different, however, is the lot of the airport designer! He cannot put much dependence on past experience, for he knows that in the rapidly changing world of aeronautics the past is not a safe guide to the future. Instead, he must develop new criteria, and then admit quite frankly that even to the initiated, the future of aviation is largely a closed book.

Every city, as it plans its airport, would like to know how rapidly air traffic may be expected to increase. Will the next decade witness only a moderate expansion of the aviation industry, or a stupendous growth comparable to the growth of motor car production? In 1900 the number of automobiles in the United States was eight thousand, as compared with nearly seven thousand present-day aircraft. Within two decades after 1900 the number of automobiles had mul-

⁸⁵ See p. 268.

tiplied eleven hundred per cent. What do these figures mean, if anything, when applied to the field of aëronautics? Do they indicate that seven or eight million airplanes will dot the skies by 1950, and that by 1960 there will be one plane for every six or seven persons?

AIRPLANES AND AUTOMOBILES

Some writers believe that the widespread use of the airplane will come even more rapidly than did the popularization of the motor car. Only a few technical improvements in plane construction are necessary, they contend, in order to make airplane piloting safe and simple, quite within the mental and the physical capacity of the average person; and the pressure of competition will then force aircraft prices down within reach of the average person's bank account. Editorials and feature articles emphasizing such views are frequently published in the technical periodicals of the aëronautical industry.

It seems reasonable to suppose, however, that the number of airplanes will be no more than a small fraction of the number of motor cars—at least for many decades to come. Most important of many limiting factors is the high degree of physical and mental precision necessary for airplane operation. An automobile performs in two dimensions, but an airplane moves in three; and the addition of that third dimension complicates the problem almost beyond belief. Quite a number of persons are incapable of driving motor cars without serious danger to themselves and to others, as shown by the records of those states which require every applicant for an operator's license to pass an examination. How many are incapable of handling three-dimensional aircraft safely? Some students of the problem place

their estimates as high as ninety per cent.⁸⁶

If these estimates are reasonably accurate, then only one person in ten is a potential airplane pilot. It must not be forgotten, moreover, that many a potential pilot will never become a pilot in fact, just as many a person who is quite capable of motor car operation will never sit behind the steering wheel of an automobile. The number of pilots is increasing every year, and will continue to increase; but the rate of increase is altogether too slow to please airplane manufacturers, whose plants could readily be geared to production on a much larger scale. Good pilots must be both born and made. In all probability, most people lack the necessary heritage and will never secure the necessary training.

PLANES OF THE FUTURE

Airport planning would be a much simpler task if it were possible to foretell the future trend of airplane development. One thing, however, seems quite certain: the transport planes of tomorrow will be very much larger than those in use today. Giant craft, with wing spreads up to one hundred and forty feet, or even more, and capable of carrying one hundred and fifty persons, may be commonplaces before long. Rumor has it that a plane with six-hundred-passenger capacity is about to be built.

Now, it is quite obvious that such large carriers, if built according to accepted standards and accepted notions of performance, will require very large hangars for storage, and very long runways for taking off and landing. But will the planes of the future be governed by today's standards? Will their greater size necessarily involve

⁸⁶ Goodrich, E. P., "Airports as a Factor in City Planning," *National Municipal Review*, Supplement, p. 189, March, 1928.

larger field areas? Or will the great transport craft of the next few decades have folding wings, like a few small sport planes now on the market, so that they may be stored in comparatively small hangars? Will they rise and descend almost vertically, thus making long runways unnecessary?

ROOF-TOP LANDINGS?

Some persons profess to see a future in which five-hundred-acre airports will be merely relics of the past. They talk lightly of roof-top landings and take-offs, and give the impression that the roof of every large hotel and office building is a potential airplane landing area. During the last few years the United States Navy has made use of planes which land successfully on the decks of vessels, and also take off from them. These developments have unquestionably contributed to the belief that necessary ground maneuvers really require very little space. At the 1928 convention of the American Society for Municipal Improvements, one speaker declared:

There isn't any doubt in my mind that within the next decade, instead of having fifteen hundred feet to land and take off, as many of the airports do have now, you will have two hundred feet or less. The time is coming, undoubtedly, when by means of improvements and inventions you will land on the tops of your buildings or in your open area ways within the city. I saw, three weeks ago, the landing and taking off on the U. S. S. "Saratoga" of hydro-airplanes, . . . and the total length for each operation did not exceed two hundred and fifty feet. . . . If they are doing it in the Navy, as they are doing it every day, others can. . . . There will be no use in going ten miles or even five miles out of the city.⁸⁷

As a matter of fact, Navy practice furnishes very little indication of the

ground facilities necessary for commercial aviation. When a Navy plane is about to land on a vessel's deck, the vessel heads full speed into the wind in order to facilitate the landing operation. If the office buildings and hotels whose roofs are said to be suitable for airplane use could be headed into the wind in a similar manner, at a speed of forty or forty-five miles an hour, the comparison between commercial and naval activities would be fairer. But every one will agree that modern skyscrapers cannot reasonably be expected to cruise very far from their solid foundations.

It may well be that compressed air catapults will soon be used to facilitate the take-off of commercial aircraft, and that in a few years such catapults will be a part of the regular equipment of every important airport. This change, if it comes about, is not likely to eliminate the necessity for large take-off areas, however, for the gigantic transport planes of the very near future are almost certain to require catapults or other artificial devices in order to rise successfully from the relatively small fields now in common use.

HELICOPTERS

But what of helicopters—aircraft which are capable of rising and descending almost vertically? Scores of helicopter models have been produced during the past few years, and millions of dollars have been spent on helicopter experiments. Results have been far from satisfactory, and one authority expresses the opinion that "the helicopter is inferior to the airplane of the same horsepower and the same weight in speed, climb and take-off distance."⁸⁸ Revolutionary improvements may be made at any time, however, and the helicopter or some other carrier em-

⁸⁷ *Proceedings of the Thirty-Fourth Annual Convention*, pp. 345-346.

⁸⁸ Clemens, Professor Alexander, quoted in *Air Transportation*, p. 58, May 25, 1929.

bodying the same principle may replace the airplane of conventional design. With vertical flight an established fact, and placed on a commercial basis, what would become of the five-hundred-acre airports and their long runways? Would they go the way of the bicycle, the horse, and the dodo?

The mere suggestion of such a possibility is enough to explain the unwillingness of many persons to support large-scale airport projects. Tax-payers do not take kindly to the use of their money for needlessly large flying fields. They naturally resent the expenditure of city funds for vast tracts of land in outlying sections which may soon be replaced by small, near-by areas.

LARGE PORTS WILL BE NEEDED

It seems reasonable to suppose, however, that large airports will always be essential, regardless of changes in plane design; for every improvement in aircraft construction will certainly be matched by great increases in air traffic. Carriers may rise and descend vertically, or practically so; but a dozen or a hundred are likely to take the place of every airplane in service today. With frequent arrivals and departures, some of them taking place simultaneously at busy fields, ground space will probably be at a premium. Not only will land be needed for field operations, but also for buildings. More and larger hangars, larger and better equipped repair shops, airplane factories—these structures will be a part of the airport of the future.

Suppose, however, that air traffic does not increase to any appreciable extent for years to come. Suppose that helicopters soon become the accepted means of air travel, and operate from roofs or small vacant lots. Suppose, in brief, that the airport as we know it today is rendered obsolete by

the march of progress. Under such circumstances, any city which has selected its airport site with sufficient care should be able to sell the land for more than the original cost. But that is a remote contingency. Airports will probably be discarded because they are too small—not because they are too large. "Looking back over a pretty long and busy life," said Charles M. Schwab some years ago, "the big thing that strikes me is that I have never yet built a plant that was big enough for its eventual needs."⁸⁹ Airport planners should take those words to heart.

NEW AIRPORT DESIGNS

During the past two or three years American architects have devoted considerable time and thought to the matter of airport design. Some of the resulting schemes are readily applicable to present-day airports and have been adopted in a number of instances. Other plans look farther into the future—so far that they seem almost fantastic. Thus, one New York architect proposes an airport in the form of a gigantic wheel, whose rim would rest upon the roofs of skyscrapers seven or eight hundred feet above the ground. The spokes of the wheel would be the airport's runways, and one of the supporting buildings would be the main terminal.⁹⁰

The rectangular field, so typical of American airports, has recently received a great deal of criticism. Writers have suggested circles, triangles, hexagons, octagons, quadrants—all with a view to conserving space and using available space more efficiently. One well-known engineer proposes a circular field, rising very slightly to an apex at its center, where the terminal building

⁸⁹ Quoted in "Regionally Planned Groundwork: Airways and Airports," Regional Planning Federation of the Philadelphia Tri-State District.

⁹⁰ *American Airport Designs*, p. 48.

would be placed. Approaching planes would then land up the incline, stopping not far from the terminal's entrance, while departing craft would slide down the slope and thus take off with ease.⁹¹ Other planners, however, throw up their hands in horror at the thought of an administration building in the center of the field. The obstructions are already sufficiently numerous, they contend, without deliberately adding to the total.

About a year ago a distinguished architect, impressed with the idea of a conical airport but realizing the objections to a terminal building rising from the very heart of the area reserved for field operations, suggested that waiting rooms, sleeping quarters, hangars, and repair shops all be placed underground. The field would then be free of all obstacles, and could be given a slope of about two per cent—sufficient to facilitate the take-offs and the landings of planes, and also to insure proper drainage. Aircraft would not be permitted to remain on the field surface but would enter the hangars as soon as possible after arrival, by means of specially designed trap doors.⁹²

THE LEHIGH AIRPORTS COMPETITION

During 1929 the Lehigh Portland Cement Company sponsored an airports competition, offering a first prize of five thousand dollars, and fifteen additional prizes of varying amounts,

for the best airport designs submitted by engineers, architects, city planners, and others. Two hundred and fifty-seven plans were received before the end of the competition, and a considerable number of them, including all the prize winners, have since been made public.⁹³ These plans are especially interesting because they reflect the trend of modern professional thought concerning airports, and furnish a clue to the probable future of airport construction.

Double runways feature many of the designs. Taxiways are commonly included. Buildings are sometimes placed beneath the field surface, and long-span roof structures over loading and unloading platforms are quite generally proposed. In a considerable number of the plans, underground rapid transit is provided between airports and city centers.⁹⁴

The Lehigh competition is but one indication of a newly awakened interest in airports. City planners, city officials, and the public are beginning to realize that aviation can develop no faster than its ground facilities, and some day that realization will lead to the creation of flying fields which are worthy of the rapidly growing commerce of the skies. But whether the day of adequate airports is close at hand or still a hazy part of the far-distant future, no one can say with assurance.

⁹¹ Goodrich, E. P., *op. cit.*, p. 186.

⁹² Corbett, Harvey Wiley, "Underground Hangar Arrangements for Future Airports," *Aëro Digest*, p. 96, Sept., 1929.

⁹³ *American Airport Designs*, Lehigh Portland Cement Company.

⁹⁴ These features of the several plans are summarized on pp. 11-12 of *American Airport Designs*.

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BLATZ, WILLIAM E., and BOTT, HELEN. *Parents and the Pre-School Child.* Pp. 340. New York: William Morrow and Company, 1929. \$3.00.

Among the many recent volumes dealing with the development of the child, this one is outstanding as a guide for parents, teachers, social workers, and all interested in the problems of mental hygiene and social adjustment. Obviously, the primary purpose of the book is to assist parents in the training of their children, and it therefore treats of such subjects as: appetite; habit formation; habits of eating, sleeping, elimination, and play; sex training; temper; methods of examination and home records for parents; departures in basic biological habits; emotion and control; and the child-parent relationships. These are discussed in a simple, practical fashion, from the point of view of the parent.

Each chapter is concluded with an outline of the chapter and one or more case records, the latter in sufficient fullness to give a complete picture of the case, enabling the reader to understand the difficulties presented, the method of treatment, and the results. These case studies are intended to emphasize the fact that difficult phases of the child's training can be met and adjusted before serious disorders of behavior are allowed to develop—an essential principle of mental hygiene.

The authors are dealing with normal children rather than with exceptional or problem cases. The book, therefore, will find its greatest welcome as a guide to parents whose children are normal. The cases cited are instances of departure, but these help the reader to understand the

normal child, just as study of the sick, the disordered, and the defective yields a large body of our knowledge of the prevention of sickness and disorder. Primarily designed for parent consumption, the book is a valuable supplement for some academic treatises in the field and therefore can be used with great advantage in the classroom or in study groups.

E. B. TWITMEYER

University of Pennsylvania

SHAW, CLIFFORD R. *The Jack-Roller: A Delinquent Boy's Own Story.* Pp. xv, 205. Chicago: University of Chicago Press, 1930. \$2.50.

The "own story" of Stanley, a second-generation Polish immigrant boy of Chicago: Chronic runaway at six and a half; beggar, before seven; school truant, before eight; shoplifter, at eight; and by this declension, in custody twenty-six times before the age of ten; thirty-eight times by the age of seventeen, including three terms in the St. Charles School for incorrigible boys and one year each in the Reformatory at Pontiac and the Chicago House of Correction.

Incredible stupidity that Stanley should have been arrested time after time and returned under so-called probation to his broken home ("a hell-bent stepmother" and a drunken father); almost unbelievable that after nearly twenty years in the school of crime, a proper placing in a foster home and the friendly counsel of Mr. Shaw could snatch this brand from the burning. If Stanley could be saved, it would seem that few such children need be lost. Stanley's tragic story has a happy ending, but the

grisly fact remains that thousands of similar stories do not. Here is a challenge as well as a reasonable hope for a better handling of juvenile delinquency. Criminals not cured before twenty are likely to become chronic incurables.

The title is misleading. Stanley was not merely "jack roller" and robber; he was runaway, truant, beggar, thief, gambler, burglar, loafer, hobo, sex pervert, patron of prostitutes, almost unemployable (he had at least thirty-three jobs from age twelve to seventeen); he had delusions of persecution ("fate was against him"); he rationalized his delinquency, pitied himself, day-dreamed, lied, and had a warped and twisted personality. But he had many good traits, too; he did not drink or use drugs, he was loyal to his code (he would not "rat" and hated "ratters"), he had a strong sense of justice, personal pride and ambition (he wanted to be a "big shot" and "pull off a rich haul"), initiative and curiosity, a strong sense of adventure and love of freedom, and a craving for love and friendship. Many personality traits fostered by delinquency are excellent materials for developing a "normal" personality.

But Stanley's story must be read to be appreciated. While it is a first class "human interest story" in its own right (Stanley, like Thomas' Waddek, seems to have literary ability—which may be a criticism of the "own story" technique), its theoretic and therapeutic implications are most important. Space prevents any discussion of this aspect of "The Jack Roller." Professor Shaw's three introductory chapters and Professor Burgess' fourteen-page "Discussion" are documents that no student of sociology or social work can afford to miss.

READ BAIN

Miami University

KENWRICK, EVELYN and MIRIAM. *The Child from Five to Ten: Interests and Problems of Early Childhood*. Pp. 299. New York: E. P. Dutton and Company, 1930. \$2.50.

Perhaps the inconsistency in the point of view from which this book on child training is written can be best illustrated by the

indiscriminate hospitality the authors show toward such divergent formulations as the experience and nature categories of Dewey and the instinct analysis of MacDougall. The child is assumed to have the full repertoire of instincts that must be satisfied or sublimated. At the same time, motor activity is seen as the genesis of knowledge, and ideas are stimulated by concrete experience. These hypotheses lead to a confused notion of the relationship of the child to society and of the problem of his personality development. Independence and egotism are posited as native traits. The "Me" must escape and exhibit its peculiar qualities. The book is written in a pleasing manner and the average parent may read it with profit and pleasure, finding within its pages an account of his own perplexities and problems. At the same time it gives clear evidence of the fact that the philosophy underlying the kindergarten movement is lagging far behind the scientific conclusions reached by recent research in other fields of child welfare.

GRACE E. CHAFFEE

State University of Iowa

PAYNE, M. A. *Oliver Untwisted*. Pp. vii, 120. New York: Longmans, Green & Company, 1929. \$1.40.

This is a small, well-written, attractively printed volume which has a special message for the many thousands of persons who are in any way identified with organizations caring for children who have, for a variety of reasons, become separated from their own people. It is an account of how one person going in as an executive to an English Government school for dependent children worked a complete change in the attitudes of the staff and the children, with results that cannot help being felt throughout the remainder of the children's lives.

There is revealed again the rare qualities necessary in those who are charged with the responsibility of caring for the many thousands of children who are deprived of the right of growing up with their own mothers and fathers for reasons such as death of parents, illness, unsuitability, unemployment, and poverty.

There is given a picture of the devastat-

ing effects of that type of service which is casual, ignorant, prejudiced, which fails to realize that children are personalities, and that, in their very early years, they are capable of intense mental as well as physical suffering.

It is quite clear that there never will be enough superintendents possessing the qualities described in the person who worked such wonders in this English "orphan asylum."

The United States inherits many of the social traditions which characterize social work at its poorest in the field of child welfare. In this current year, probably half a million dependent and neglected children will pass through the various public and private child-caring agencies in the United States. In proportion to population, the English institution totals are far larger than those for the United States. During the decade just beginning, the total number of children to be cared for by these agencies may exceed one million five hundred thousand. The battle still has to be fought here as in England for two essentials—the right personnel, and the application of the right methods of work; the latter depending inevitably upon the former.

A child does not have to be under poor care for very long to suffer irreparable injury as to his health, the development of his mental abilities, and the achievement of certain skills in some handicraft. It does not take much to destroy his faith in other human beings and to impart a point of view which may have disastrous effects on all of his human relations.

It is possible, as described in *Oliver Twist*, to conduct an institution or child-caring agency so that it expresses sympathy, understanding, courage, and intelligence; but, in view of the limited number of persons available or likely to be interested in this very special field of social work, we are more than ever charged with the responsibility for checking the flow of children into these agencies.

Ordinary people, with little or no training, who view what they do as mere jobs, cannot be expected to make the right selection of children from the many who will be referred to these agencies for care.

Only the unusual type of person will

endeavor to find the causes of juvenile dependency and neglect and will seek their removal where this is humanly possible.

Fathers are still killed, with little concern, in industry. Mothers still die in childbirth before their time. Unnecessary illness deprives families of fathers and mothers. Here we have forces at work creating crops of children for child-caring agencies. Agencies, if they do good work, must expend upon each child sums far larger than would have been necessary to prevent much of this breaking up of families if their services could have been brought into play at the very first instances of trouble.

Because of the very uncertainties as to what may happen to any one child when placed in the care of a foster agency, there is a double responsibility to see that it is not needlessly and thoughtlessly placed. The best foster care can never quite equal or duplicate all of the simple and intricate protection which a good, though poor, family is able to pour into the lives of its members. Hence the constant emphasis which must be placed on the importance of the right evaluation of different types of social welfare agencies. Child welfare, in its finest application, should center around the protection of the child's own family life. Much that we characterize as child welfare in terms of institutions and foster family agencies represents a type of service which is well outside of the family picture.

J. PRENTICE MURPHY

Children's Bureau, Philadelphia

REEVES, MARGARET. *Training Schools for Delinquent Girls*. Pp. 455. New York: Russell Sage Foundation, 1929. \$3.50.

In the fall of 1924 the Department of Child Hygiene of the Russell Sage Foundation finished a study of public training schools for delinquent boys and girls in the United States. The present work is a report of the schools for girls. Fifty-seven such institutions were studied, most of them state schools. The investigation was made not only to secure accurate knowledge of the status of institutional treatment, but also to learn the trend and to assist in the development of modern standards of such treatment. The evaluation of the work of

each school was made in part for the benefit of the staff.

The book is divided into four parts. The first deals with the institution, its historical background, system of control, staff, and so forth. The second deals with the physical and psychological care of the girl, the third with her education and training, and the fourth with certain community aspects of her care and parole.

It is interesting to note that almost all of the administrators said that their most serious problem was their inability to get, or to keep, high-grade and trained staff members. This is a most important problem, for in penal institutions as well as in hospitals, universities, or business concerns, the quality of the administrative, technical, or instructional staff determines the value of the work performed. The book is recommended to all interested in penology.

THORSTEN SELLIN

University of Pennsylvania

MÜLLER-LYER, F. *The Evolution of Modern Marriage*. (Translated by I. C. Wigglesworth.) Pp. 248. New York: Alfred A. Knopf, 1930. \$4.00.

Presumably the present American interest in discussions of sexual problems has led to this translation, seventeen years after its publication in Germany, of Müller-Lyer's *Phasen der Liebe*. The author himself died near the beginning of the World War, so he has had no chance to make changes which he undoubtedly would have wanted to make, to bring the work up to date. As it stands, it is decidedly behind the times, and is of no great value to the American student. The author traces the evolution of marriage from a largely imaginary primitive period when only the primary sexual characteristics were present. The addition to these of secondary factors, such as modesty, jealousy, understanding of the fact of fatherhood, and the like, is held to constitute the second or family phase of love, in which, however, the woman was looked on as inferior. The third and modern phase is the personal phase, in which there is, or will be, economic independence of both partners; a recognition by women that they are not equal to men but equivalent to them and

that they have their own particular part to play; a full development of the best personal qualities of each; and a sound eugenic basis under the whole structure. The book is readable and is liberally documented; but like most writers in this field, the author has picked out isolated instances of customs that met with his preconceived ideas, and has ignored everything else.

PAUL POPENOE

The Institute of Family Relations,
Los Angeles, California

YOUNG, KIMBALL. *Social Psychology*. Pp. xvii, 674, xxi. New York: Alfred A. Knopf, 1930. \$4.00.

Since his primary purpose was to write a college textbook, the author was forced to minimize methodological and controversial questions. Moot points are not ignored, however, and the curious student can pursue the points upon which the doctors disagree, by means of the six or seven hundred citations in the author-index.

In the preface, Professor Young goes on record as believing "that the more naturalistic approach of behavioristic psychology is sound, but that behaviorism at the moment has not offered any marked advance over functional or dynamic psychology in the analysis of covert or 'mental' behavior." He does attempt, however, to put this material into a "somewhat behavioristic setting."

This book, like all others, illustrates the confusion between "individual" and social psychology. The titles of the first four parts—"The Social Setting of Human Behavior," "The Psychology of Individual Behavior," "Personality and Group Participation," "Personality and Subjective Patterns"—sound quite individualistic. The content, however, is much more sociological than is true of most so-called social psychologies. The "person" is defined as a culturally or groupally conditioned individual (Park and Burgess) but the terminology is largely that of ordinary psychology. This is not a criticism. Rather it is evidence of the lack of delimitation in the two fields—a nice methodological problem that will not be solved soon. It is due to the failure to see that all psychology

that is not neuro-biology is *social psychology*. It is based on the old armchair antithesis between individual and group. Of course, Professor Young labors under no such delusion, but he is a terminological victim of it, as we all are.

To the reviewer, Part Five, "The Crowd and the Public," is social psychology, practically pure and undefiled. The chapters on "Fashion," "Public Opinion," "Censorship and Propaganda" are, I think, the best in the book and about the best I have read anywhere. Another outstanding chapter is "Language, Thought and Social Reality." It shows how autistic or derelict thought crystallizes and perpetuates infantile, fantastic, irrational, subjective, magico-mystical modes of adjustment. It is a devastating critique of the myth of the "rational man." It might well be called "The Disease of Language."

Space prevents further discussion. The book is well written, clear, concise, interesting, with a wealth of carefully chosen illustrative materials, class assignments, and questions. Whether it is used with or without the author's *Source Book for Social Psychology*, it is safe to call it one of the best, if not the best, *sociological* introductions to social psychology.

READ BAIN

Miami University

WARNER, AMOS G., QUEEN, STUART A., and HARPER, ERNEST B. *American Charities and Social Work*. Pp. xiv, 616. New York: Thomas Y. Crowell Company, 1930. \$3.75.

Social work has undergone many changes since the publication of Warner's *American Charities* in 1894. Not only has the technique of relief changed, but the philosophy of social work would hardly be recognized by a relief agent of the nineties. Cases that formerly were treated solely from the standpoint of amelioration or temporary relief are now diagnosed from the standpoint of fundamental maladjustment requiring insight and understanding rather than a set of acceptable attitudes and good intentions. In fine, modern social work aims to utilize the findings of psychology and psychiatry to bring about an understanding of the

individual's problems and situation and to help him make the readjustments necessitated by the increasing complexity of present-day industrial organization.

In the present volume the authors have brought together a tremendous amount of information and have presented it in a thoroughly scholarly and readable style. This book deserves the careful study of every individual interested in the problems of humanity. Excellent bibliographies are provided for the various chapters and there is an adequate index.

J. P. SHALLOO

University of Pennsylvania

HAYNES, FRED E. *Criminology*. Pp. x, 417. New York: McGraw-Hill Book Company, 1930. \$3.50.

Scholarly rather than journalistic interest in crime and the criminal is evidenced by the growing number of books written by sociologists and psychologists. Professor Haynes has produced one of the best. Written in an interesting, readable style, it is scholarly in the best sense. It rides no hobbies. The presentation is clear and concise, temperate in judgment, and sound from the standpoint of criminological science and also from that of penological practice. A unique and valuable feature from the standpoint of the student and the teacher is the list of "topics for investigation" at the end of each chapter. Of outstanding merit are Chapter VII on Juvenile Offenders and Chapter XII on Inmate Self-Government in Prisons.

The reviewer noticed a few minor defects which do not detract seriously from the merits of the work. For example, Chapter VIII is entitled The Evolution of Penology, rather than the Evolution of Penal Methods. The author says (p. 199) that the Borstal institutions in England "correspond to our state reformatories of the Elmira type." This is incorrect, as his discussion shows (pp. 204, 205). Again (p. 255), the author says that the "public road" system of handling prisoners in the South has been largely abandoned. Last summer it was still in use in Florida, Alabama, and Tennessee. From observations at Trenton in 1927, I doubt the

change brought about in the New Jersey prisons by a change in the administrative body (p. 252). Further, it is doubtful whether the reforms brought about in New York at the inception of the Auburn system (p. 234) should be regarded as "an adaptation and imitation of the Pennsylvania reforms and the Auburn system, a variant of the Pennsylvania system."

J. L. GILLIN

University of Wisconsin

WYNDHAM, HORACE. *Criminology*. Pp. 105. New York: Jonathan Cape and Harrison Smith. \$1.50.

To be a force in the life of the average man the data of science must be presented to him simply and attractively, without technical verbiage. Mr. Wyndham tries to perform this essential task for criminology in a book of about twenty thousand words. Considering this brevity the author must be congratulated. He has been unable to cover the entire field, of course, but he has given a readable, if incomplete, survey of the nature of crime, the theories and the history of punishment, crime and insanity, the death penalty, juvenile delinquency and habitual criminals, and the machinery of justice.

His historical chapters are best and his theoretical approach is in general sound. A judicious use of humorous anecdote enlivens the narrative. We are told, for instance, about the witness in a case in Australia who had arrived there as a transported convict, but upon his release had become a wealthy squatter. The opposing counsel tried to discredit his testimony by insisting that the witness tell the court how he arrived in the colony. Finally the witness lost his patience. Turning to his tormentor he said, "Well, if you really want to know, I'll tell you. Fifty years ago I landed in Australia handcuffed to your father."

THORSTEN SELLIN

University of Pennsylvania

PAGE, KIRBY (Ed.). *A New Economic Order*. Pp. 387. New York: Harcourt, Brace and Company, 1930. \$3.00.

In the foreword to this collection of essays we are informed that, as originally planned, it was to have a subtitle, namely,

"Ways of Transforming the Present Competitive System into a Coöperative Order." Hence, the general idea contemplated is an evolutionary rather than a revolutionary process of change. The book is divided into two parts, the first of which discusses "Rival World Movements, Pro and Con," while the second bears the title which in the beginning had been thought of as the subtitle of the volume. The first part contains four pairs of essays presenting arguments for and against Capitalism, Fascism, Communism, and Socialism. In the second part, various lines that might be followed to facilitate the transformation of the present system are described in sixteen essays by as many authors. Some of the subjects are: "The Minimum Wage and Family Allowances," "Social Insurance," "Consumers Coöperation," "Public Ownership," "Taxation," "Economic Incentives in the New Society," and "The Psychology of Social Change."

Among the twenty-four contributors to the volume, those who are professional economists write with greater definiteness and perspective than those who may properly be characterized as reformers. This is particularly true of Professor Edwin R. A. Seligman, who presents "The Case for Capitalism," Professor John Maurice Clark, who writes on "Government Control of Industry," and Mr. J. A. Hobson, who discusses "The Social Control of Credit." Henry Raymond Mussey, who at one time taught economics but for several years has been managing editor of reform periodicals, describes "Capitalism Weighed in the Balance." In his view, the severest count that can be brought against capitalism is its neglect of moral and spiritual values. Although he does not contend that it may not some day learn that "the life is more than meat and the body more than raiment," he seems to have very little hope that it will assimilate that truth.

"Economic Incentives in the New Society," by Bishop McConnell, is good on its critical side and endeavors to avoid exaggeration, but is too vague in its description of the incentives which in the new society might be expected to take the place of profit, competition, and other driving forces in the society that we have.

As a whole, this collection of papers is suggestive, embraces a wide sweep of ideas and theories, describes many roads which may lead toward a better economic order, but presents no definite picture of the order itself.

JOHN A. RYAN

Catholic University

HUNT, EDWARD EYRE. *An Audit of America: A Summary of Recent Economic Changes in the United States*. Pp. xii, 203. New York: McGraw-Hill Book Company, 1930. \$2.00.

This book represents an attempt to summarize the more comprehensive study of the National Bureau of Economic Research on *Recent Economic Changes*, conducted under the auspices of the Committee on Recent Economic Changes of the President's Conference on Unemployment, and published in May, 1929. Mr. Hunt, who served as secretary of the Committee, has made the summary in response to requests "from many quarters" to make the Bureau's findings available in more convenient form. His task has not been easy. In slightly more than two hundred brief pages, he has endeavored to present the Bureau's more important findings with regard to the far-reaching changes which have taken place in American industrial life in the decade following the war. The original presentation extended through two closely-typed volumes of 950 pages, and drew to its aid hundreds of detailed graphs and tables. Mr. Hunt has stuck close to the original in the organization of his material and has frequently borrowed the language with slight or no changes. What the summary has gained in compactness it has lost in thoroughness. Obviously, that is no fault of the author, but of his task. Even the original study, with its wealth of detail and its frequent profundity of analysis, left one not quite satisfied in his search for a complete understanding of the more significant changes which have come about in American economic life in the last decade. The newer volume, inevitably in its condensation, leaves the reader more at sea. Students will do well to turn to the original. To those who seek information rather than

understanding, the smaller volume may serve a useful purpose.

GEORGE WARD STOCKING

University of Texas

Public Regulation of Competitive Practices. Pp. xi, 320. New York: National Industrial Conference Board, Inc., 1929. \$3.00.

It is stated in the preface that the work of preparing this volume was done by Myron W. Watkins under the direction of the Staff Economic Council. The study involves legal knowledge throughout, and in consequence the jargon of the legal profession is much in evidence. Should the lay reader find these legalistic phrases a bit difficult during the early chapters of the book, he will forget the abstractions as he reaches the body of the argument, where a wealth of illustrative material is used.

The opinions and the conclusions of the author for the most part appear to reflect a keen insight into the principles and the problems at issue, coupled with rare poise and judgment. Only occasionally is a doubtful conclusion given the sanction of definite assertion. Not many readers will agree that "if the energy of business managers must be continually engaged in checkmating the insidious and unfair aggression of unscrupulous rivals, the value of the competitive process from the social point of view is impaired, and its attraction to the participants themselves must likewise suffer." Or, agreeing thus far, they will hardly go the length of the conclusion that under these circumstances "it becomes only a question of time before such competition will be ended, either by the collusion of the exhausted and exasperated rivals, or by the supremacy of the most predatory." Surely this holds out a hope to the business pirates which experience up to the present does not warrant.

In the first three chapters of the book the general question of the regulation of competitive business is discussed. In the next three the work of the Federal Trade Commission is passed in review, and this appears to be the main purpose of the volume, occupying the bulk of the whole work. So fair, judicious, and restrained are the com-

ments and the conclusions that the reader is hardly aware until well into Chapter VI that the weakness of the Commission, its anomalous relation to and comparison with the courts, its penchant for straining at occasional gnats and apparent willingness to swallow whole caravans of camels, are appreciated by the authors. But the appreciation is eventually revealed. It should be remarked in this connection that the authors have come through the long and arduous review of the uninspiring account of the work of the Commission with more faith in its ultimate usefulness than the more casual critic and observer has often been able to retain. It is made plain that the Commission is, or more exactly was, neither beast, bird, nor fish respecting functions within the realm of legislative, judicial and executive procedure and action.

By far the greatest praise is accorded the Commission for its recent efforts in promoting "Trade Practice Conferences." In these, with little show of authority, the Commission has succeeded in bringing together many groups of competitors and has inspired and encouraged them to formulate codes of procedure respecting trade ethics. This is in conformity with the original purpose of Congress as understood by the authors. "It was not designed to conduct a Sherman campaign in Georgia. It was designed as a reconstruction mission."

In spite of all the extenuating circumstances, the generous explanations, the discovery of much improvement in method of procedure, and the broader concept of the purpose of the Commission, the thinking public will continue to wonder what signal benefit is likely to follow the order to "cease and desist" from the use of the trade names "Tabsylk," "Sterlene," and "Good Weare," and will ask that some major operation be undertaken. Some day we will pay a bit of attention to costs and wastes of competition, with some hope and prospect of reducing them; and meanwhile, generate less heroic heat in a vain effort to keep the competitions of yesterday alive and fighting.

B. H. HIBBARD

University of Wisconsin

BOWERS, EDISON L. *Is It Safe to Work? A Study of Industrial Accidents.* Pp. xiii, 229. Cambridge: Riverside Press. \$2.50.

In his preface, Professor Bowers announces his purpose—to tell why thousands of persons are killed and injured annually in American industries, when seventy-five per cent of all accidents are preventable; why we permit our great industrial system to function so inefficiently, when a few employers have shown that automobiles, steel, gunpowder, clothes, and all other articles can be produced without killing and maiming workers; why we hate and condemn war and condone the continual battle in industry where the casualties exceed those of war. He does not answer any of these questions, for they cannot be answered. He does incidentally mention the ever increasing speed of American production as a cause of accidents and he sets forth, clearly and ably, the defects in our inadequate and unsystematic "systems" of workmen's compensation, rehabilitation, and industrial accident prevention, and suggests certain improvements. This book, which presents statements and statistics showing the shortcomings of legislation and the weaknesses in administration in these fields, is a meritorious work deserving of high praise. But in my opinion, the author greatly weakens the case he advocates by overstating it at the very beginning. The title of the book would better serve as a newspaper headline than as the name of a serious book dealing with industrial hazards.

In the second paragraph of Chapter I, the author makes these challenging assertions: "Over a long period of years, war has come to be regarded as the most destructive of all agencies, the acme of things horrible. Yet the workshop is more dangerous than the battlefield. Since our country has become an independent nation, fifteen times as many persons have been killed or injured in industry alone as have been lost in the nation's battles."

The assertion in the last sentence may be accepted without comment as possibly true enough, but it is very misleading in its implication that work risks are more deadly than war risks. The assertion that the workshop is more dangerous than the bat-

tlefield is a most unfortunate exaggeration, which can be given a semblance of fact only when viewed through utterly distorted statistical spectacles. Since many sincere persons have accepted without question the doctrine of the relative destructiveness of peace and innocuousness of war, it seems necessary to consider this assertion with some care. First, it should be noted that about forty million persons "gainfully employed" were exposed *constantly*, day in and day out, to industrial or work accidents during the eighteen months ending with the armistice of November 11, 1918. During that year and a half, from 100,000 to 4,000,000 American soldiers and marines were exposed to the hazards of disease and traumatic injury incident to preparing for and carrying on war. The strictly battlefield hazards, however, affected an average of possibly 500,000 men at the most, for not more than 400 twenty-hour days—a battle risk, let us say, of 4,000,000,000 man-hours exposure to battle injuries as against at least 180,000,000,000 man-hours exposure to industrial injuries. With an exposure to "accidents" only one forty-fifth as great, our soldiers suffered 50,000 killed and 180,000 maimed in battle, while our industrial army had possibly 24,000 fatalities and 1,200,000 disabling injuries comparable to a "wound" recorded in battle statistics. On a comparable basis of man-hours of exposure, then, the mortality rate in battle is certainly not less than ninety times the mortality rate in industry, while the battle injury rate is possibly no more than six or seven times as great as the industrial injury rate. These very rough estimates suggest only a small part of the awful destructiveness of war. The toll of war in broken physiques, smashed mentalities, ruined characters, and wrecked lives is vastly more terrible and more costly than the list of the battle casualties. I am not trying to excuse the inexcusable brutalities of "peaceful" industries. The hands of industry are bloody, and its conscience, if it had a conscience, would be weighed down with the burden of daily misery which crushes the lives of millions of workers. But it is neither necessary nor helpful to picture industry as more cruel than it really is. The causes of industrial safety and of

war prevention are injured by statements which exaggerate industrial hazards and consequently minimize war hazards.

Professor Bowers gives a readable and fair summarization of some of the most important features of workmen's compensation laws in the United States and Canada. He gives some account of the important work of the International Association of Industrial Accident Boards and Commissions in the field of disability ratings; analyzes the rehabilitation, the legislation, and the administration; appraises the value of the safety movement; and concludes that more facts are needed and higher compensation benefits must be paid to injured workers. He feels that consumers of the products of industry can pay and will willingly pay any additional costs of production necessary to meet higher compensation costs.

He is sound when he advocates making the killing and the maiming of workers more costly to employers. It is granted that the careless employer should be penalized and the careful employer rewarded on the basis of their accident records. The problem is, how to discriminate justly. Would it be just to assess a punitive accident insurance rate against a mine which had suffered a disastrous cave-in, due not to any neglect but to the nature of the rock, while another mine is given a favorable rate not because of any merit in safety work but because Nature has provided safe conditions? In such cases, would it not be more just to follow the Scriptural rule that the strong should bear the burdens of the weak?

It is granted that more adequate compensation to disabled workers should be provided. How can the injured worker be encouraged to undergo surgical operations and physical and trade retraining if his compensation benefits are to be reduced in proportion to any increase in his earning capacity resulting from such operations and training?

Professor Bowers recognizes that the problems are complicated and difficult. The plan he advocates—to consider accident prevention, rehabilitation, and compensation as parts of one comprehensive program—is as old as the Compensation

Commissions; but very little progress toward realizing this program has been made in the twenty years since the compensation principle has become clearly recognized in American legislation.

In their broadest aspects, the problems of preventing, curing, and compensating industrial accidents are but parts of the vast problem of stabilizing industry and employment. These problems will never be adequately dealt with until reemployment is assured for injured workers who have been partially or fully restored.

It is to be hoped that Professor Bowers' book will be widely read and that his analyses and conclusions will influence legislators to enact more just and adequate laws for industry.

ROYAL MEEKER

Carleton College

LA DAME, MARY. *The Filene Store: A Study of Employes' Relation to Management in a Retail Store*. Pp. 541. New York: Russell Sage Foundation, 1930. \$2.50.

The study represents an incisive and impartial analysis of a system of employee representation referred to so often and so copiously that, without reason, it assumed, in part at least, a reality which was actually nonexistent. The book is well written and has a comprehensive synopsis and a good index.

The study is divided into four parts, the last of which covers the conclusions. Part one describes the aims and the ambitions of the owners, also the store organization and the character of the employees. Part two describes the organization of the Filene Coöperative Association and its functions, both as originally conceived and as practiced. Part three describes, in detail, the store's personnel policies. These are the usual or standard employment methods of the more up-to-date stores.

According to the author, the results of the Filene system of employee representation have been about as follows. The organization of the employees, known as the Filene Coöperative Association, or F.C.A., has contributed but little towards the shortening of the hours of labor. On the subject of wages, the F.C.A. has "practically

nothing to show." It has taken no initiative at any time on wage questions.

Chapter VII, entitled "Profits," deals with the profit-sharing aspirations of the originators of the plan. To make a long story short, profit-sharing had been discussed for years, but had never been put into operation. It was ultimately substituted by the payment of bonuses—a practice found in many of the other department stores of the country.

The author makes interesting observations regarding the effect of the F.C.A. on sales promotion and upon the initiation of suggestions for economy and service. It is as follows: With respect to worth while suggestions, the Filene store seems to have been no more, and no less, successful than other businesses. The suggestion committee has continued to function, "but its accomplishments have not been vital." The author, however, thinks that in sales promotion, "the Association has a more interesting history." Some references to special sales drives are cited and results credited to the F.C.A., largely because, apparently, "the last day of the drive resulted in the largest Tuesday's business in the month." One familiar with such sales drives in department stores can cite countless instances where results of the kind mentioned were achieved without the existence of employee representation.

The much advertised employee representation on the Board of Directors has had rather little substance behind it when viewed as management-sharing by employees. The outstanding fact in this respect, says the author, is that with the exception of the Executive Secretary of the F.C.A., employee directors were always store executives. When, in 1919, the F.C.A. attempted to make its directors report to its electorate, the "directors replied by conferring with their attorneys and stating to the Council that its nominees were under no obligation to report to it or be guided or instructed by it."

Aside from the idea of the desirability of employee stock ownership, the actual experience has been that the "original stockholders increased their power and their share in ownership, and finally, in the general financial reorganization of 1928 . . . any

idea of a possible wider distribution of stock through the F.C.A. or the employees other than the management, was abandoned."

The principal activities of the F.C.A. revolved largely around coöperation in the carrying on of the so-called welfare work among employees—distribution of sick benefits, the management of a credit union, medical examinations, employees' savings and loans, the operation of instruction classes, the publication of a weekly bulletin, the management of a band, an orchestra, and a choral club. The F.C.A. also assisted in the enforcement of store rules regarding dress, tardiness, absence, and discounts on purchases.

The only phase of employee activity found in Filene's and seldom found in any other store is the provision for arbitration of all cases of discharge. According to the author, this protection of employment tenure is, however, subject to the objection of "creating difficulties for executives whose leadership in their own departments may sometimes be jeopardized by one-sided decisions by the Arbitration Board," made up largely of rank-and-file employees.

To all intents and purposes, nothing apparently has happened in Filene's that has not happened in countless other well-managed department stores.

Much has been said about the salutary influence of the Filene system of employee representation upon the business success of the organization. The correctness of these generalizations is now subject to doubt in view of disclosures made by this study, showing that employee participation in management has been more imaginary than real. Furthermore, Filene's have not been outstanding money makers in their field. Their net earnings have been moderate and considerably less than that of some other successful department stores. Of late, Filene's earnings have become subject to the same vicissitudes as those of the rest of department store retailers—mounting expenses accompanied by definite reductions in earnings.

Filene's have, for years, been the most publicized department store in the United States, for the following reasons: the Filene plan of employee representation; the store was, apparently, doing a good job, the

management was enlightened enough (and publicity conscious enough) to permit investigators to view their operations; some of the Filene executives missed few opportunities to talk, publicly, about the wonder-working effects of their management-sharing policies. Much credit is due Miss La Dame for having separated the theory of the F.C.A. from its practice.

The results of the workings of the Filene system of employee representation should not be attributed to a lack of sincerity on the part of the owners. The results simply demonstrate what every practical business man or student of business should know, namely, that industrial democracy and competitive business do not often travel together; also, that the mere fact of employment does not necessarily guarantee ability on the part of the rank and file to contribute to sales promotion, to economy, to better service, or to the efficiency of management in general.

BORIS EMMET

Stanford University

VAILE, ROLAND S., and SLAGSVOLD, PETER L. *Market Organization*. Pp. xviii, 498. New York: The Ronald Press Company, 1929. \$4.00.

This is an elementary volume on marketing, using the functional and institutional approaches. Several unusual chapters are: Classification of Commodities, Metropolitan Areas and Centers, Concentration in Marketing, and Consumer Coöperation. The chapter arrangement is somewhat different from that of most marketing texts. Several interesting appendices, including one on Sources of Research Information, are appended. A comprehensive list of important books on marketing is given at the end. The text matter contains many examples illustrating the principles laid down. Its simplicity and clarity recommend it for use in a freshman course.

RALPH F. BREYER

University of Pennsylvania

RAUTENSTRAUCH, WALTER. *The Successful Control of Profits*. Pp. xvi, 239. New York: B. C. Forbes Publishing Company, 1930. \$3.00.

Is it possible successfully to control the profits of a business enterprise? Business

men in general would like to have an answer to this question. They would like to know by what method or methods the host of factors or variables operating in favor of or against their particular business can be brought under control. The author, Professor of Industrial Engineering at Columbia University, has made it his duty to delve into the basic economic principles underlying modern business enterprise in seeking an answer to the question.

The first two chapters of the book deal with business in general and business in particular. The general features of all businesses center around purchasing, manufacturing, and merchandising. Specific features of a particular business are discussed under the headings of design of product, design of processes, productive capacity, problems of expansion, and so forth. The next three chapters are given over to an analysis of costs and of the economic characteristics of manufacturing businesses and their relation to costs. Balance Sheets and Profit and Loss Statements are analyzed and interpreted in the next two chapters. The preparation of a budget and a discussion of the future of a business are taken up in the final chapters.

The underlying current of thought running through the text centers around the application of the scientific method to business phenomena. The author concludes that business data are amenable to scientific method. He selects the budget principle as being fundamental. It, he says, is the starting point for thinking about the future. It not only introduces the principle of cause and effect as applied to business but it also places the business on a scientific basis by introducing the element of quantitative measurement in business. Budget preparation involves a detailed analysis of all phases of business costs and returns. This analysis points out the shortcomings and favorable features, thereby leading to greater control of the business and a more successful control of profits.

There are a number of charts dealing with the relation of constant costs, variable costs, and plant capacity, with emphasis on percentage of plant capacity to be utilized in order to break even or to determine whether plant expansion is justified. These

charts, together with laws developed therefrom, are most instructive. The segregation of constant and variable costs are not made as easily as the author leads one to assume. Opinion plays an important part in determining what is constant and what is variable, and one should bear this in mind when studying the charts.

The real merit of the book consists in the author's emphasis on the advisability of applying scientific method to business data, in order that the X's, the unknown factors in the business equation, may be eliminated or at least understood and controlled.

How can it be done? The answer is by operating under a budget scientifically determined. The book is heartily recommended to all business executives.

J. LOCKWOOD

University of Pennsylvania

State Income Taxes. Pp. xxv, 335. 2 volumes. New York: National Industrial Conference Board, Inc., 1930. \$4.50.

Volume I of this study is devoted to the history of state income taxes in the United States. Volume II is analytical and discusses what might be called income tax problems. Like other publications of the National Industrial Conference Board, these volumes have presumably been written not for specialists but for the information and the guidance of business executives. In view of this fact, it is scarcely valid to criticize them on the score of being largely a rehash of more definitive works on the same subject, and of treating too many of the problems presented in a highly cavalier and inconclusive fashion.

As is admirably brought out by the volumes themselves, the number of points on which information may be needed in connection with the numerous forms of state income taxes on individuals and corporations is enormous. The business executive requires a work of ready reference to which he can turn with more than an even chance of quickly procuring at least some information on any point which may arise. For this purpose, the Conference Board volumes should easily be worth their salt. They cover a wide range of topics, and

whether the information desired be statistical, legal, theoretical, or historical, a preliminary consultation of their contents may result in a considerable saving of time.

CLARENCE HEER

University of North Carolina

EYSKENS, GASTON. *Le Port de New York dans son Rôle Économique*. Pp. 395. Louvain: René Fonteyn, 1929.

Monsieur Eyskens has pictured the world's first port from the viewpoint of a European economist. It is an excellently documented and thorough study of the commerce, the traffic, the rates and the operation of the port, based on statistics up to and including those for 1928, and on an intimate, personal study of the ground.

The first part describes the nature of the commerce, analyzing the ocean, canal, coastal, intercoastal, and passenger traffic; the commercial products handled and their origins; and the economic function of the port in relation to the movement of these products. The very favorable load factor for both foreign and coastwise commerce is clearly portrayed. The author well points out that for any other country, the coastwise domestic commerce would be international.

The second part deals with the causes of the greatness of the port; its heritage from the past; the opening up and the growth of the virgin country and its natural outlets; the means of communication with the interior and with the ports of the world; the piers, the terminals, the warehouses, and their equipment; and the organization, the operation, and the administration of the port. The picture of the development of the port is very happily drawn, showing the various factors affecting it and the particularly rapid progress after the success of the "Clermont" and the introduction of steam to navigation. Much space is given to the settlement and the growth of the hinterland with its three natural outlets, the Mississippi River, the Great Lakes—St. Lawrence River, and the Mohawk—and the Hudson River; and to the result of the construction of the Erie Canal. The interior means of transportation by rail, canal, highway, and air, are described in detail, and the maritime

communication with world ports is carefully analyzed. There is an excellent description of the organization of the port, its facilities, and the movement of freight, including the commercial and administrative formalities of export and import operations.

The third part analyzes the principal problems of the port, such as railroad net and connections, freight terminals, belt lines, and car floating; rational operation of the piers, and equipment and terminal charges. A chapter is well devoted to the rate structure, causes, trends, tariff wars, and competition among ports. Here, Monsieur Eyskens points out the artificiality of the port differentials which he apparently considers inequitable, but he might have shown that the absorbed free lighterage cost is a tribute which the rest of the country pays to benefit New York's export traffic. The final chapter foretells the probable future of the port of New York as affected by the Mississippi River, Hudson Bay, and St. Lawrence Canal routes. In conclusion, he believes that the experience of New York clearly shows that, of necessity, any port must establish definite plans for development years in advance; that the destiny of ports is best controlled by a public body where economists and engineers have a preponderant influence; and that in the Port Authority, New York will find new and fertile initiative for logical development.

Monsieur Eyskens deserves commendation for this timely study, well done. The bibliography is excellent, most complete, and of great value in itself. This book should be in the library of every port engineer and economist. It is to be hoped that an English translation may soon render the information more generally available.

J. STUART CRANDALL

Cambridge, Massachusetts

GRODINSKY, JULIUS. *Railroad Consolidation: Its Economics and Controlling Principles*. Pp. xvii, 333. New York: D. Appleton and Company, 1930. \$3.50.

This is by far the most interesting and instructive contribution that has been made to the much-discussed subject of railroad consolidation. Its thesis is that from the

standpoint of the railroads, consolidation is simply a matter of obtaining and holding traffic through control of routes between producing and consuming centers. The idea is not a novel one, for since the time Jay Gould threatened to strangle the Pennsylvania Railroad by securing temporary control of its main feeders from the West, railroad interests have been keenly aware of the need of controlling, if possible, the lines leading to the main sources of their traffic. The interest and the value of Dr. Grodinsky's work lies in the exhaustive analysis of the complex factors which determine the strategic policies adopted by railroads in competition for business—an analysis presented with a wealth of illustrative example to be found nowhere else in the literature of railroad transportation.

It is regrettable that the author confines himself almost wholly to a consideration of the interests of the railroads in consolidation. One wishes either that he had broadened the scope of his inquiry or that he had not drawn sweeping general conclusions from the study of one aspect of the subject. This country found out long ago that traffic arrangements which hold promise of greatest profit for the carriers are not necessarily productive of the most beneficial and satisfactory results for the communities which railroads serve. Industrial and market competition should not be ignored, any more than railroad competition, in framing judgments concerning railroad consolidation policies and plans. The effects which wholesale consolidation may have upon rate structures and upon the future development of transportation facilities also deserve consideration. Consolidation of railroads as a national policy needs much more to justify it than simply the "erection of a limited number of properties of approximately equal financial strength and earning power capable of competing on equal terms in the rendition of a high standard of railroad service at reasonable rates."

Doubting the ability of the Interstate Commerce Commission or of any other body to prepare a satisfactory plan of general railway consolidation, Dr. Grodinsky believes that the provisions of the Transportation Act requiring the preparation of a consolidation plan should be repealed.

Nevertheless, he seems quite willing for the Commission to have power to authorize the consummation of any project of railroad consolidation submitted to it for consideration. With such unlimited authority, the Commission could determine the course which consolidation should take, just as effectively as it could under a preconceived plan. While few will question the advisability of intrusting the Commission with the duty of exercising supervisory control over consolidation, the character of the two comprehensive plans published by the Commission has served to convince many persons that Congress has gone entirely too far in making the Commission the sole and final arbiter of the public interest. There is a growing conviction that the law itself should stipulate some of the conditions under which consolidations may be effected.

The seventh chapter of the book would have been improved had the author discussed proportional and joint rates with technical correctness, and had he given more consideration to the provisions of the Interstate Commerce Act forbidding undue discrimination between connecting lines.

T. W. VAN METRE

Columbia University

KNIGHT, BRUCE W., and SMITH, NELSON L. *Economics*. 2 Volumes. New York: The Ronald Press Company, 1929 and 1930. \$8.00.

This text provides the usual menu: introductory appetizers—factors of production, business organization, money and banking—followed by the *pièce de résistance* consisting of a huge slice of theory—eighteen chapters—supposed to be necessary for the assimilation of the twelve chapters of economic problems which follow. Speaking generally, one wonders how much the usual prolonged and painful presentation of economic theory contributes to the perplexed students' understanding of economic problems.

The authors give a prominent place to the development of the law of diminishing returns and the doctrine of "surpluses," or rents, rightly considering the latter as elements in the determination of price. The

price theory presented is impregnably entrenched behind a mass of alphabetic symbols—more than the usual number of PHFG's, RXZD's, and so forth. The influence of Professor Fred M. Taylor, to whom the volumes are dedicated, is written large in the use of such headings as "Rates at which F and V Averages Change"; "Imputed Products of F's and V's"; all of which seemingly are necessary to an intelligent grasp of the meaning of the law of diminishing returns. It is to be feared that, at the end of the battle, the student will retire vanquished while the value theory remains impregnable.

On the other hand, unusual clarity is to be found in the "applied" chapters. Necessary information is succinctly supplied; there is no evidence of any attempt to hide inadequacy of information under a smoke-screen of words. The chapters on business and financial organization answer most of the questions that might be raised by the intelligent reader.

Aside from their presentation of economic theory as a combination of philosophy, mathematics, and esoteric symbolism, these volumes have much to commend them. It is to be regretted that the problem discussions are not available separately.

The exercises appended to each chapter are a valuable feature of the text.

FRANK B. WARD

University of Tennessee

SPAHR, WALTER EARL, and SWENSON, RINEHART JOHN. *Methods and Status of Scientific Research*. Pp. xxi, 533. New York: Harper and Brothers, 1930. \$4.00.

This book is intended as a guide for college seniors looking to the preparation of theses, and for other beginners in social research. It purports to give these beginners the principles of critical scholarship, the proper technique for application of the principles, a general knowledge of the present status of social research, and a proper attitude of mind. To the principles of critical scholarship, the authors give approximately one quarter of their space. This section of the book is somewhat diffuse and generally superficial, sometimes to the

point of inaccuracy. On pages 22 and following, for example, there is gross confusion of thought and statement, arising from the failure to recognize the relatively simple distinction between historic and scientific prediction. The middle half of the book is given over to a miscellaneous body of elementary information on note-taking, use of a library, the mechanics of manuscript preparation, punctuation, plagiarism, copyright, and numerous other matters. The closing parts of the book have to do with various types of research and research organizations. A chapter each is given to "International Research," "Federal, State, and Municipal Research," and "Industrial, Commercial, and Social Research." This section also contains a chapter enumerating the foundations and organizations engaged in or encouraging research.

The miscellaneous nature of its content makes it inevitable that the book should be without unity; but it is not without value. It contains many items that will be new and useful to college seniors.

E. B. REUTER

Cornell University

WILLOUGHBY, WESTEL W. *The Ethical Basis of Political Authority*. Pp. viii, 460. New York: The Macmillan Company, 1930. \$3.50.

Professor Willoughby has published the present study of the ethical basis of political authority as a companion piece to his recent work, entitled *Fundamental Concepts of Public Law*, where he considered the nature of the state and its powers as they are conceived by the jurist. No one can fail to welcome so scholarly an achievement on a problem of such primary importance. The plain man will perhaps fail, should he venture to explore the pages of this comprehensive volume, to appreciate why it takes so long to achieve a formula which is quite as simple as Professor Willoughby's, or why it is necessary to pass in bibliographic review all the deviations from this formula; but of such is the essence of scholarship. Professor Willoughby believes that political coercion "is justified just to the extent that it provides a more efficient and less oppressive form of control than would exist with-

out it." (P. 259). Political coercion may legitimately be used, not for the benefit of a class, but "in order to advance the interests of the governed," since "all men, as moral persons, are essentially alike" (P. 271).

This volume is given a certain contemporaneous quality by the early introduction of a substantial chapter on Fascism, shortly after a similar chapter devoted to Socialism and Communism. The concluding chapters expound and, I think, successfully expose the theories of Duguit, Krabbe, and the Pluralists. Professor Willoughby shows how these theories, which are ostensibly juristic theories, are essentially ethical, and are to be considered as hybrid formations.

For those who wonder what this sort of speculation has to do with the modern world, there is an opening chapter which undertakes to justify "final political philosophy" as distinguished from the "juristic."

HAROLD D. LASSWELL

The University of Chicago

DAVIS, JOHN W. *Party Government in the United States*. Pp. 68. Princeton: Princeton University Press, 1929. \$1.25.

This small, well-printed volume comprises the two lectures given at Princeton in 1929 under the Stafford Little Lecture-ship on Public Affairs. The lecturer, Mr. John W. Davis, brings to this discussion of an interesting subject a rare experience in public life as a party worker, a congressman, a solicitor-general, an ambassador, and finally as the Democratic candidate for the Presidency in 1924. As he frankly admits, he has "but skirted the fringe of a large subject." And yet, after a review, charmingly written, of the growth of a two-party system in American political life, he has ventured to state clearly and convincingly certain practical conclusions which he has drawn, in the hope that those to whom he speaks "may be moved to carry on the investigation for themselves."

It is refreshing in these days of over-emphasis on facts, when men are so highly trained in "research" that they seem to lose all capacity to judge, to find one who is interested primarily in those values which alone give any meaning or significance to the

endless volumes of statistics which modern scholarship is offering to us.

Mr. Davis believes in parties and he interprets party history and even ventures on prophecy in the light of that belief. He is convinced that parties are "the most effective engines for the expression of the popular will" and "that a two-party system is, in America, the traditional as well as the practical maximum" and he concludes that "to preserve these two in full vigor is one of the highest duties of American citizenship."

Turning in his second lecture to party principles, leaders, and nominations, he gives but a qualified assent to Professor Holcombe's explanation of the rise and fall of parties in terms of economic groupings. Mr. Davis' experience has taught him that one cannot ignore the vital part which party principles and party traditions have played in practical politics. He has no doubt felt the force of them in his own public life. He knows that in the composition of man, aims often do successful battle with needs. In the discussion of leaders and nominations, Mr. Davis attacks vigorously the "primary" system. He feels that it has weakened party responsibility and concludes that "party government without party responsibility is a delusion just as party candidacy without some degree of party loyalty is a false pretense."

In every way these lectures are a worthy addition to the former Stafford Little Lectures.

ROLAND S. MORRIS

University of Pennsylvania

SMITH, J. ALLEN. *The Growth and Decline of Constitutional Government*. Pp. xvii, 300. New York: Henry Holt & Company, 1930. \$3.00.

This posthumous volume is a stimulating and outspoken criticism of American constitutional government. It is concerned more with what the author calls the decline of our system than with its growth. Like the author's well known volume, *The Spirit of American Government*, published in 1907, it is sure to shock that large number of complacent Americans who believe that our Government is a perfect machine, functioning faultlessly according

to the spirit of the framers of the Constitution. The fears of tyranny in a popular government felt by the framers have given way, according to the late Professor Smith, to an almost complete acquiescence to rule by popularly chosen officials. We are forgetting that "effective popular control means much more than the dependence of public officials on popular approval for continuance in office."

The author clearly points out that a majority in power may be much more intolerant even than a monarch, because it is presumed to be representative of all the people, and hence is much less likely to be attacked than a monarchy. The democratic suffrage has been offset by overrepresentation of rural communities and restrictions of various kinds, such as debt and tax limitations upon the more progressive urban communities. The judicial veto is emphatically condemned. The Constitution should be interpreted by the people and not by governmental officials. The decadence of the jury is looked upon by the author as the result of an intentional movement on the part of conservatives to lessen popular control.

Centralization of power in the Federal Government, international relations dominated by the capitalistic class, imperialism, and patriotism have all been used to take constitutional power out of the hands of the people. Even the natural rights doctrine is no longer a check upon governmental supremacy, as it has become the belief of the average American that no such restraint is necessary for popularly chosen officials. Governmental supremacy has been steadily gaining at the expense of popular sovereignty and this movement is, according to Professor Smith, a sure sign of the decadence of constitutional government. He advocates not the abolition of constitutional government, but rather a return to it.

As an able statement of what might be called the progressive attitude, this book deserves careful reading by all those who are interested in constitutional government and the problems arising under it. A well-written introduction by the late Professor Vernon Louis Parrington, a colleague of Professor Smith, includes an appreciative

estimate of the work and the influence of the author.

BEN A. ARNESON

Ohio Wesleyan University

ECKENRODE, H. J. *Rutherford B. Hayes: Statesman of Reunion*. Pp. xii, 363. New York: Dodd, Mead & Company, 1930. \$5.00.

I must confess that I approached *Rutherford B. Hayes: Statesman of Reunion*, by H. J. Eckenrode, with the same restrained enthusiasm that a man who always gets seasick feels as he climbs aboard ship. In the first place, it is "one of a series, intended to"—and so forth. You know what such a series generally turns out to be. Then, too, it treats of the very decade in American history which holds the most subtle pitfalls for the historian; for it is a period of small men and violent partisanship, and it is fatally easy, in taking sides on issues, to distort the picture of personalities out of all semblance to impartial biography.

But Mr. Eckenrode's book gave me a pleasant surprise. Partisanship is wholly absent. The line between the overwhelming significance of the social and political trends of the period and the total insignificance of the actors is dispassionately drawn. The author starts out with no predispositions and no desire to enhance the importance of his work by enhancing the importance of its subject. The result is a fair, authoritative, and (what is more surprising) very readable story of Hayes' career.

Minor flaws may easily be found. I do not believe, for example, that General Hayes could have kept himself quite so aloof from the dirty politics being played in his behalf during the famous election controversy as Mr. Eckenrode makes out. But such lapses are quite incidental. On the whole, the book presents a restrained, honest, philosophical portrait of a shrewd yet limited intellect, projected by chance on to the major stage at a time so critical as to be beyond his powers, struggling earnestly to do his best, and leaving at the end an honorable but futile and inadequate figure. The raw passions of the time, its formidable ambitions, all of them too urgent for the pigmies entrusted with their direc-

tion, are shown with simple and unobtrusive sureness. And Hayes is displayed, in the main, exactly as he was, a superior example of the party hack, a very demure Ajax, defying, in the most gentlemanly manner imaginable, a lightning of which he could glimpse only the least important segments.

If the rest of this projected series measures up to Mr. Eckenrode's study, it will be welcomed by all lay students of history.

ALPHONSE B. MILLER

Philadelphia

CHANCE, ROGER. *Until Philosophers Are Kings*. Pp. xvi, 293. New York: Oxford University Press, 1929. \$4.00.

This is a good, although by no means an epoch-making, study of the political philosophies of Plato and Aristotle, and of their possible application to the modern state. It is in the best English tradition and has a strong ethical motif that perpetually recurs, as any good motif should. The major fault to be found with the book is that it takes no account of the real life of Athens during the period when the two philosophers lectured, nor of the latter's class and ethnic affiliations. The economic currents that set in after the Persian Wars are not noticed at all, and the reactionary leanings of Plato, scion of the landed gentry, do not evoke comment.

Elevating, learned, but by no means new or enlightening—this seems to be the verdict.

HOWARD BECKER

University of Pennsylvania

FERRARA, ORESTES. *El Panamericanismo y las Opinión Europea*. Pp. 303. Paris: Le Livre Libre, 1930.

This volume on pan-Americanism and European opinion is written by the Cuban Ambassador to the United States. It is a keen psychological analysis of pan-Americanism and deserves reading as an exposition of the psychological attitude of the Americas and of European countries toward international relations. Señor Ferrara shows clearly that European nations cannot think of life in other terms than contest. That an American—North or South—should visualize peoples working

together for their own betterment with no thought of injuring others, is anomalous to a foreigner. Such regional understandings as the Monroe Doctrine, therefore, such organizations as the League of Nations, and such gatherings as the Pan-American Conferences must, in the European mind, have a force behind them which compels observance of their regulations and decrees. All national and international groupings, to the European mind, must be either for purpose of offense or of defense.

Señor Ferrara's book shows clearly, however, that the psychological attitude of the United States and of much of Latin America is an entirely different one from that of Europe. Our history has not forced their type of thinking upon us. American conferences, therefore, may propose reforms in political or commercial practices with no thought of injury to others, but merely for the purpose of raising standards in our own group or of improving our own international relations, or even of improving world conditions without special regard for the conferees.

This book ought to be read in both Europe and Latin America. It is accurate, scholarly, and withal most interesting reading. The Ambassador is critical—and justly so—of some of our national and international policies; but in this instance he has presented a most convincing answer to carping critics who berate us because of high-handed imperialism.

HARRY T. COLLINGS

University of Pennsylvania

JONES, CLARENCE F. *South America*. Pp. x, 798. New York: Henry Holt and Company, 1930. \$6.00.

Within the limits of one volume, Dr. Jones has performed the rare feat of giving to all those interested in the republics of South America a comprehensive picture of economic and physiographic conditions as the background of the civilization of these countries. We have long needed a volume of this character, not only for use in university classes, but also for the enlightenment of that increasing number of persons desiring to know something of the environment of the rapidly developing countries of

South America. The author has divided each country into definite regions and he sets forth with great care the physical and economic characteristics of each. No work heretofore published on the South American countries fills the need which Professor Jones has met. He has given to the world the best presentation that we today possess of the economic background of the civilization of the republics of South America. For this service he has placed under deep obligation every one who is interested in bringing about a better appreciation of the civilization that is developing in the southern section of the Continent.

L. S. ROWE

Pan-American Union

ANDREWS, C. F. *Mahatma Gandhi's Ideas*. Pp. 382. New York: The Macmillan Company, 1930. \$3.00.

The device adopted by the author, of presenting selections from Gandhi's writings interspersed with other documents and with his own interpretations, is particularly appropriate for his task. No other book by or about the great Indian leader gives an insight into his teaching at once so direct and so free from verbal difficulty for the Western reader. We see here, in revealing episodes, the life history of an outstanding contemporary, a man so unique that no biographical parallel quite adequately describes him. As a religious teacher, Gandhi has been likened to Saint Francis; but in his leadership of men he more resembles a Savonarola. He shares Tolstoy's somewhat superficial recognition of economic factors in social ethics, but at other times shows a keen comprehension of the practical implications of the boycott and other tactics of social revolution.

The inconsistencies of Gandhi's principle of noncoöperation with his advocacy of universal love are here disclosed, not only by his evident inability to meet the arguments of the poet Tagore, which have the author's fullest sympathy, but also by acknowledgments of his own inner struggles. Three times confounded and three times repentant, he has once more entered upon a policy of non-violent noncoöperation that is bound to lead to a refutation of his

pacifist leadership by many of his followers. Yet, each time he emerges with a stronger hold of his essential philosophy upon the Indian people. The present conflict of this great radical with a Labor Government is not an accidental irony of history but an inescapable impact between theories that must lead to cultural vandalism and an evolutionary socialism which hopes to conserve all human resources that have proved their value in the past.

The author, both in his editing and in his own confessions of faith, reveals himself as a forceful and lovable personality, worth knowing for his own rich contributions to the ethical thinking of our time as well as for his great services as an interpreter between East and West.

BRUNO LASKER

The Inquiry, New York

HULL, WILLIAM I. *India's Political Crisis* (Johns Hopkins University Studies in Historical and Political Science, New Series, No. 7). Pp. xvii, 190. Baltimore: The Johns Hopkins Press, 1930. \$2.00.

To the uninitiated, India's politics are hopelessly chaotic. A dozen parties ring changes on the themes of independence or dominion status, passivity or violence, civil war or coöperation with the British, machine industry or the domestic system, communal or popular representation, freedom of conscience or religious strife. The National Congress reverses itself with almost clock-like regularity. Propaganda hides the truth and widespread indifference has deterred impartial investigation from abroad. Few detached historical accounts have ever been compiled by disinterested observers to enable foreigners to understand the sources, the strength, the meaning, and the possibility of India's national ideals. Professor Hull's careful study of the debates and the resolutions made in the 1928 conventions throws a clear and penetrating light upon the events that brought about the present unrest in British India, and upon the Indian attitude toward the suggestions of the Simon Commission report.

HARRY EMERSON WILDES

Valley Forge, Pennsylvania

GERIG, BENJAMIN. *The Open Door and the Mandates System*. Pp. 236. London: George Allen and Unwin, Ltd., 1930. 10s.

No factor has been more generally provocative of international ill will in modern times than has been the checking of normal trade relations between one country and another's overseas possessions.

From 1500 to 1800, the principle of exclusion and monopoly was applied to colonial commerce as a whole; from the latter date to about 1880, trade prohibitions gave way to differential tariffs and to the open door in the British Empire. Subsequently, under the influence of neo-mercantilism, there was a marked return to restriction, with resultant friction among the powers; only in the Congo basin and the German holdings was economic equality an actuality, and in the former for but a short time. Then, with the institution of the mandate system in our own day, the open door principle was applied to former German and Turkish territory under League auspices, and the Permanent Mandates Commission was intrusted with its enforcement.

There is here presented a comprehensive, thorough study of the open door in dependent territories before and after the appearance of the mandates, together with a consideration of the widening sphere of international competition arising therefrom. The first of its kind, it is based upon a wide range of documents and secondary matter, and affords convincing evidence of the League's accomplishments in the direction of peace through economic channels.

The appendix contains representative mandate texts, that of the San Remo oil agreement, and three maps showing the A, B, and C regions respectively.

Unhappily, the volume is an unusually poor example of British bookmaking. The introductory part and the headings are badly crowded, to afford the publishers the opportunity of inserting advertising matter at the author's expense, after the fashion of the past century, and the title page alone contains two glaring typographical errors which should have been caught by the most casual proof reading.

LOWELL JOSEPH RAGATZ
The George Washington University

MARGALITH, AARON M. *The International Mandates*. Pp. ix, 242. Baltimore: The Johns Hopkins Press, 1930. \$2.50.

This is just another doctoral dissertation. Acquisition of the much coveted Ph.D. imposes authorship upon the aspiring candidate and hence, in this case, a study of the Near Eastern mandates was projected. But research in that field was sidetracked in seeking to gain familiarity with the mandate system itself, and a survey of the latter resulted.

The work is a correlation of commonly known though widely scattered bits of information rather than the traditional contribution to knowledge. Had the writer carried out his original intention, beginning where he left off, he would in all probability have produced a really scholarly volume; for his ability is obvious. Presumably, lack of time prevented this.

The bibliography is uncritical and neither it nor the footnotes conform to conventional canons. Text books are quoted as authority on pages 66 and 106. Article 22 of the League Covenant and the texts of the mandates for Samoa, Togoland, and Syria-Lebanon form appendices.

LOWELL JOSEPH RAGATZ
The George Washington University

HEBARD, GRACE RAYMOND. *Washakie: An Account of Indian Resistance of the Covered Wagon and Union Pacific Railroad Invasions of Their Territory*. Pp. 337. Cleveland: The Arthur H. Clark Company, 1930. \$6.00.

I have been asked to write a short review of *Washakie*, by Grace Raymond Hebard, so well and widely known as the historian of Wyoming, and for her writings and research among the sources of history. The West is far richer in Spanish, French, and English sources than many realize, and Miss Hebard is doing for them what few have time and opportunity to do for themselves.

The text and the make-up of the book are very pleasing; and the maps are excellent—I carry others just like them in my head—a reference to which has caused many scenes of my youth to appear before the eyes of memory, scenes of what was then a land of

romance and adventure, the home of the buffalo and the wild Indian, which has always been dear to my heart. I killed the last wild buffalo I ever saw, on the Gray Bull River, in 1884, near where Washakie had the hunt described in the text. I joined Custer's Regiment, the 7th Cavalry, as a replacement officer fresh from West Point in 1876, and followed its fortunes on horseback all over the plains, and gained the friendship of most of the important Indians of that day, among others Washakie, Joseph (Nez Percé), Plenty Coups (Crow), and Mountain Chief (Piegan). Only the two latter are now alive, blind and crippled.

All of these were men of high character, sagacity, and patriotism, and were looked up to as veritable fathers by their people. I have always been very proud of their friendship, and rejoice that a book of such quality has been written giving the side of the Indian so different from the seamy side he usually gets.

It is stated in the text, page 24, that the origin of the name "Shoshone" is not known. I was told long ago by the great missionary to the Shoshone for more than forty years—Rev. John Roberts of Wind River—that the word was derived from the Shoshone word "Shonip"=grass; "Shoshonip"=much grass. And I attributed this to the grass lodges formerly built by them. The name "Snake" was given to them by the Blackfeet before 1798, on account of their reputed treachery; and their sign name is "Snake." I do not know of any other tribe that calls them "Snake" in their vocal speech, although there may be others; they call themselves "Neum"=People. The Comanche, who revolted from them long ago, call themselves by the same name. I have the whole story of the separation and the migration South, told in the sign language of the plains. "Snake" is an old name, for we read of *La Verendrye fils* searching for the "Gens de Serpente" southwest of the Black Hills of South Dakota in 1743. The statement is noted, page 284, that Washakie is the only Indian who has been accorded a military burial. It will be found, however, that Isee-o, a full-blooded Kiowa Indian, was given even a more important military funeral at Fort

Sill, Oklahoma, in 1928, and I have attended others.

H. L. SCOTT,

Major General, U. S. A., R'd.

Princeton, New Jersey

SUTLEY, ZACK. *The Last Frontier*. Pp. 350. New York: The Macmillan Company, 1930. \$3.00.

These reminiscences of an active career in the Far West from 1867 to 1885 contain much interesting data on the phase of American history known as the passing of the frontier. A young man from Oil City, Pennsylvania, went West for a summer's adventure and stayed for nearly twenty years. He describes many incidents connected with trapping, ranching, steamboating on the Missouri, freighting into the Black Hills, mining, and relations with the Indians. His is a colorful and genuine narrative, a real source for the history of this picturesque locality and era. These recollections are especially valuable as they reveal the psychology of the frontiersman, his restlessness, his naïveté, his resourcefulness, and his straightforward relations with his fellow men.

ROY F. NICHOLS

University of Pennsylvania

HEBERLE, RUDOLF. *Über die Mobilität der Bevölkerung in den Vereinigten Staaten*. Pp. iv, 224. Jena: Gustav Fischer, 1929. 12 marks.

This is a valuable book, for three reasons:

First, it is an exhaustive analysis of census data bearing on changes of residence among the population of the United States. Instead of ranging over the face of the globe by means of such third-hand compendiums as yearbooks, and so forth, Heberle wisely restricted himself to a relatively small area, for which fairly adequate data were available. His analysis of Negro migration is especially noteworthy, although he could not take into account the full tide of the postwar movement, inasmuch as census data later than 1920 were not available. His general conclusion is that the residential mobility of the population has steadily increased, with a sharp upturn since 1900.

Second, he has an excellent series of chapters on the social effects of mobility; the influence of Tönnies is plainly evident, and it has been a good influence. Heberle shows a good deal more objectivity than any of the other writers who have been following the same vein; he is not led astray by cheap biological analogies nor by a venomous hatred of the city population—two failings recently evidenced by American sociologists.

Third, he has performed a salutary service in limiting his major concept, mobility. Instead of letting it stand for everything from social change to diffusion, or from motility to locomotion, he has given it the unambiguous meaning of change of residence. By so doing he has implicitly exposed the fallacies underlying much current "ecological" and "social space" discussion, and has opened the way for further extensions of the term that are warranted not by the dictionary but by the data; i.e., he has raised, but left unanswered, the question of mental or psychological mobility.

The book has some shortcomings, to be sure, but they are not especially important. One that might be mentioned is the lack of connection between the first and second parts; one feels that the statistics and the sociological generalizations are not interdependent. But after all, demography is not sociology, whatever else it may be.

By and large, Heberle has demonstrated the wisdom of the Rockefeller Foundation in financing the study.

HOWARD BECKER

University of Pennsylvania

DEKRUIF, PAUL. *Seven Iron Men*. Pp. xiv, 241. New York: Harcourt, Brace and Company, 1929. \$3.00.

Here the author turns from the men who hunt microbes to those who have sought the secret location of minerals. We are given a vivid and most readable story of the Muritt brothers and their associates, who for years hunted the wilderness of Minnesota until the discovery of the great iron deposits. Then the hunters saw outside capitalists step in and reap most of the financial rewards. The author's sympathy is with the pioneers. The book has considerable his-

torical value, for its sources are numerous and scattered.

CARL KELSEY

University of Pennsylvania

BERDROW, WILHELM (Ed.). *Krupp*. (Translated by Dickes, E. W.) Pp. 416. New York: Lincoln MacVeagh, 1930. \$5.00.

No historian can pass by the history of the Krupp firm if he hopes to understand the development of armaments in modern Europe or the growth of the German Empire after 1870.

And the history of the Krupp firm is largely the history of one man, Alfred Krupp, who began his career at the age of fourteen, just after his father's death had left a struggling little steel shop on his almost infantile shoulders, and who continued until his own death at the age of seventy-five. When he died, the Krupp Works were known, for good or evil, the world over, and according to his lights, Alfred Krupp's life work had been a great success.

Almost the whole story is available in this collection of letters. They show the incredible persistence of the man, the unbelievable inertia of the Prussian bureaucracy with which he had to deal, the ramifications of the armament race, his struggle against early socialism, his childlike pride in the part played by his guns in the victory over France, his paternalistic outlook on industrial relations, and his successive triumphs over old age and physical weakness. There were giants in those days!

HOWARD BECKER

University of Pennsylvania

EDDINGTON, ARTHUR S. *Science and the Unseen World*. (Swarthmore Lecture.) Pp. 91. New York: The Macmillan Company, 1929. \$1.25.

This brief essay by one of the ablest of living physicists will interest all who wish to see how a modern scientist tries to interpret the world in its religious aspects.

CARL KELSEY

University of Pennsylvania

MARKUN, LEO. *Mrs. Grundy*. Pp. xii, 665. New York: D. Appleton and Company, 1930. \$5.00.

Those who are interested in a scientific and naturalistic approach to morals have felt the lack of a book giving the factual background for generalizations upon our changing and various *mores*. Mr. Markun's contribution, entirely undistinguished as it is, can scarcely claim to have filled the gap satisfactorily.

After an introduction designed to prove that good and bad are not the same at all times and in all places, the volume consists of two parts, devoted to "moral" aspects of the history of England and the United States, respectively. In the earlier part we meet the more scurrilous anecdotes about royal personages. The latter section is more nearly a history of *mores*, for it is less attentive to the eccentricities of particular persons. The only approach to analysis of causative factors is the dropping of a few hints about the rise of the middle class and the economic independence of women.

WILLIAM REX CRAWFORD

University of Pennsylvania

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